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Facts About the Kenny Treatment

—An Editorial by MORRIS FISHBEIN

AT the Annual Session of the American Medical Association, held in Chicago in June, a committee of distinguished leaders in the field of orthopedic surgery presented the results of a study that they had made of the Kenny method. Chairman of the committee was Dr. Ralph K. Ghormley, Professor of Orthopedic Surgery in the University of Minnesota Postgraduate School at Rochester and a member of the staff of the Mayo Clinic. Associated with him were representative orthopedic surgeons from six great medical schools. In the course of their study the committee visited six cities and sixteen clinics and examined 740 patients, of whom 650 had been treated by the Kenny method. Outstanding in the Kenny method is the use of continuous hot packs. The committee felt that the application of these continuous hot packs to all patients in the absence of any evidence of actual spasm of the muscles is of questionable value and a waste of manpower and hospital beds. Here is further evidence of the necessity for avoiding routine treatment in cases of infantile paralysis; here is further emphasis on the necessity for individualization of patients; no two cases of infantile paralysis are exactly alike. Good medical judgment must be applied in every case if the best results are to be secured. Here also, however, is some evidence of the actual contribution made by Miss Kenny to the control of infantile paralysis, because there seems to be evidence that physicians in general, even if not orthopedic surgeons, were, before the coming of Miss Kenny to the United States, applying splints as a routine procedure to most patients with infantile paralysis, particularly when epidemics broke out. Miss Kenny served to shake them out of this routine. As the committee itself says, the wide publicity given to the Kenny method may have misled the public and many members of the medical profession, but the committee "acknowledges that this has stimulated the medical profession to reevaluate known methods of treatment of this disease and to treat it more effectively. . . ."

Unfortunately people in general do not read as carefully as they should the reports that appear in the press regarding medical technics. Far too many people took it for granted that the Kenny method prevented paralysis in the vast majority of cases, in which other methods failed to prevent paralysis. The actual statistics show that many patients with infantile paralysis would not become paralyzed even without any treatment and that the number who are paralyzed in any given epidemic varies tremendously, since it depends on the amount of destruction that takes place in the central nervous system.

What interests people at this time is exact knowledge as to just what they ought to do when infantile paralysis breaks out in their community. The very best advice is for them to get a competent doctor and to leave to his decision the methods of treatment to be followed. In the stage of infantile paralysis when fever is present the general condition of the patient must determine the amount of handling that is possible. Under such circumstances it may be impossible to institute the complete Kenny method of hot packs, and something simpler or more easily applied may be desirable. All physicians, and Miss Kenny as well, emphasize proper positioning of the patient in bed. This has been a standard procedure in medicine for thirty years. The chief value of hot foments is the relief from pain. Both rest and hot packs help to relieve spasm. Certainly the use of hot foments is not a panacea in infantile paralysis; the extent of their use must be guided by the judgment of the doctor. The judgment of the doctor must prevail also in determining how much motion—both voluntary and that carried on by the doctor and the physical therapist—is applied to aid recovery. Every one is agreed that it is not desirable to move the paralyzed muscles beyond the range of comfort.

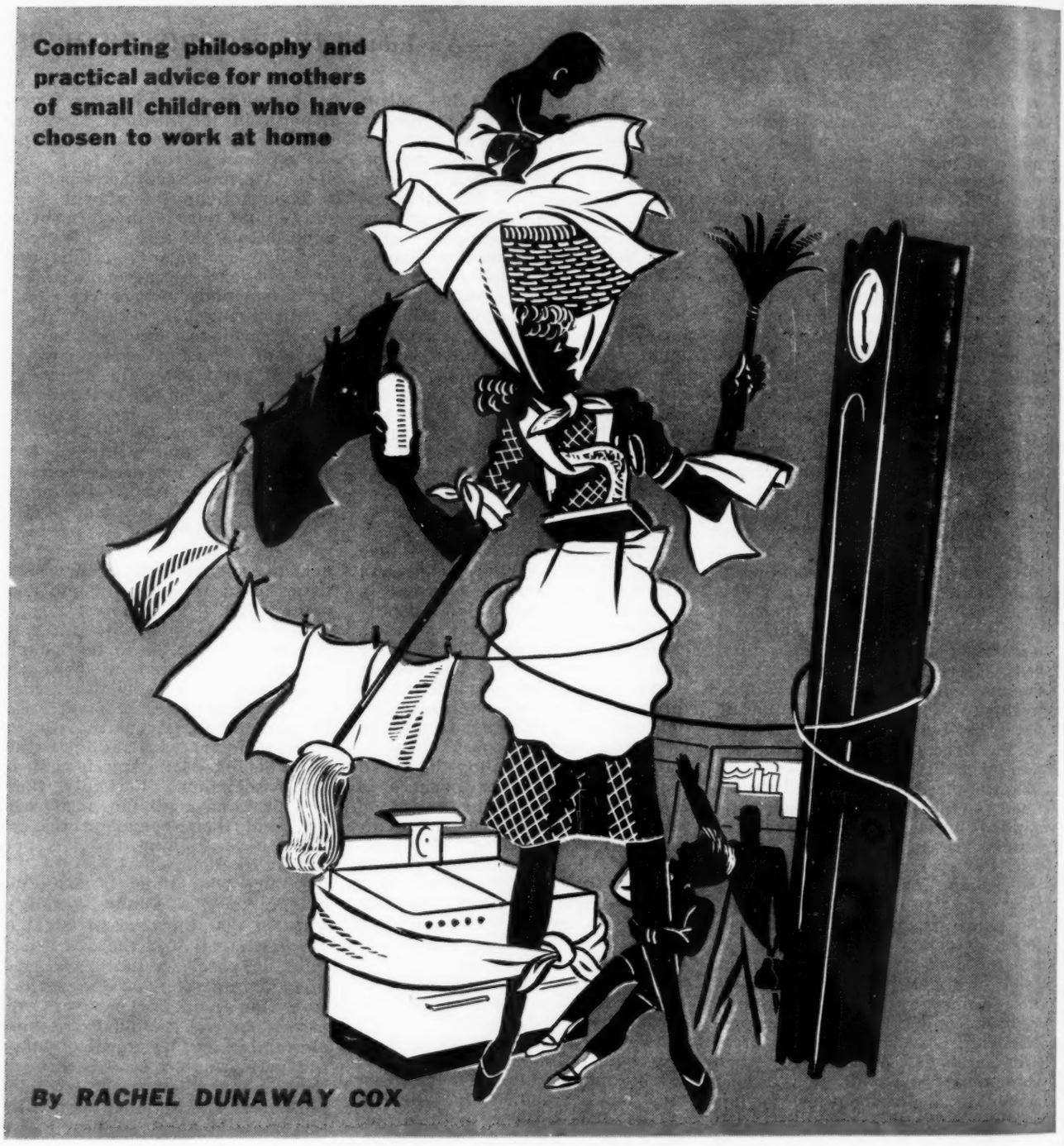
As with the Kenny method so also with splints and braces; the extent and duration of their use must be governed by the judgment of the doctor. The distinguished committee felt that splints are beneficial for some patients, aiding the control of contractures. Braces are an important part of the treatment during the later stages of the disease. Respirators are important for those patients who cannot breathe because of paralysis of the muscles used in breathing; even if they do not save life, they add greatly to the comfort of the patient.

The chief fault found by the committee with Miss Kenny is not so much with her method as with what she and others speaking for her have said about her method. On this point the committe was direct. It said: "Spontaneous recovery in poliomyelitis occurs in many cases. Reports in the medical literature indicate that this varies in different epidemics from 50 to 80 per cent. We have seen many patients receiving Kenny treatment who showed no muscle involvement at any time, yet she assumes the credit for their satisfactory results and does not take into account the factor of spontaneous recovery. . . .

"Miss Kenny has repeatedly stated that in 'orthodox' treatment only 13 per cent of the patients recovered without paralysis, while under her treatment over 80 per cent recover. We believe that this is a deliberate misrepresentation of the facts of treatment by other methods. This we attribute to her overzealous desire to promote further the adoption of the Kenny treatment. Miss Kenny's statement of 80 per cent recovery under her treatment has not been supported by accurate statistics in a significant number of cases. . . ."

The seven orthopedic surgeons who reported on the Kenny technic had been appointed by three distinguished medical societies, including the American Orthopedic Association, the American Academy of Orthopedic Surgeons and the Orthopedic Section of the American Medical Association. Certainly these organizations and the men who represent them command respect. They have nothing to gain personally by their report.

At the same time it would not be fair to Miss Kenny to fail to mention that the over-all effect of her participation in the problem of infantile paralysis has been good. The investigation of the technic from the point of view of the physiology and pathology of muscles and of the treatment of infantile paralysis has already brought to light many factors of great importance. The National Foundation for Infantile Paralysis has done a great service to medicine by stimulating instruction in the method and by subsidizing basic research on the changes in the human body that occur in this disease. Many scientific reports have appeared in medical periodicals giving us knowledge of this disease that otherwise would have been long delayed in appearance. The enthusiasm and the drive that Miss Kenny has given to the attack on infantile paralysis cannot be depreciated. She has served like an enzyme or ferment to hasten study and to encourage the earlier appearance of important facts.



Comforting philosophy and practical advice for mothers of small children who have chosen to work at home

By RACHEL DUNAWAY COX

THE rise of juvenile delinquency which has been so marked a feature of the second year of the war has strengthened the conviction of many mothers that they can render no sounder service to their country than the careful and diligent care of their own children. Though the many mothers who have left their homes for offices and factories have been conspicuous, the great majority of American mothers are still sticking to the job of looking after their children, convinced that they are better occupied in that work than they could be in any other. They feel that they serve the nation, as well as their families, best by seeing to it that the children are properly fed, adequately clothed in rain, in cold and in heat; that they have rest when they need it; and that their small illnesses are caught and attended before they become big ones. Above all, they feel it is their special work to arrange things so that their children shall live each day in an atmosphere of emotional serenity and love, laying the foundations for stable personality—personality that will be

able to withstand the shocks of living in such a world as this.

It is no easy thing—this decision to forego the extra income and satisfaction of an outside job in the great and stirring war effort. It is hard, really hard, to decide to stay with the age-old job of caring for a home and children when so many women are being swept by the tides of war into work which clearly and tangibly will hasten the end of the war. For a woman who has a special skill or talent it is an especially difficult decision, difficult because she foregoes interesting work she would enjoy doing and because she sometimes is visited by doubts as to whether the decision to stay with the children is necessary. Each woman must make the decision in the light of all her circumstances, governed by the facilities her community offers for child care and taking into consideration what aid she can hope to enlist in those absolutely inevitable emergencies of family life caused by illness, accidents and emotional ups and downs.

As a whole, the women who have carefully and conscientiously decided that their place is with their children during the formative years seem fairly well convinced of the wisdom of the choice. Nevertheless the going is not always easy for them. It is one thing, a fine thing, to resolve to make one's home a haven of quiet and peace in a world at war—to make the harmony and beauty of that home a symbol, the embodiment of a dream, for those who must endure the hardships and terrors of the war. To carry out that resolve is no easy thing. It is no weakling's work! In the course of a year it will take all the physical stamina and all the courage a mother can muster.

The job of looking after a family of small children—always a formidable one—has become enormously harder because of the war.

Home Front Communiqué

The actual physical burdens are greatly multiplied. Few can now find even those occasional helpers who used to make the big job a little easier. In cities where the laundries can take on no new customers, newly arrived mothers must do the sheets and shirts in addition to the traditional diaper and pinafore washing which has always been done at home.

Difficulties in marketing and shopping now stretch what used to be a one hour job into three. And what is more, little sister and baby brother must be taken along on every expedition to the butcher, the grocer and even to the dentist when Mother gets a toothache. There is no one she can get to leave them with. And if Mother comes home from her extramural activities ready to tear her hair because of the strain of keeping Susie and Jim out of the cranberry basket and off the cookie display, and from falling out of a tenth story window while the dentist got in his licks, she will just have to go ahead and tear it. There will be nobody to take charge while she collects her scattered wits. Nor will there be anybody to pull off snow suits or put the meat in the refrigerator while she takes a sedative for the migraine that has taken charge of her whirling head!

In a household of young children there is not, as in an office or factory, a "ladies room" to which one can retreat when the going gets tough. One has to stand up and take it like a man—or perhaps as few men could or would! The home front is no inactive sector. Those who have chosen it could have done all right in the Rangers. Some women are unbearably burdened by the strains imposed by the wartime regimen of family life. They are exhausted, their tempers are frayed and in some cases their health is actually undermined by the physical and emotional stresses it involves. Yet some are acquitting themselves with admirable strength and grace. What makes the difference? This is a highly important question. For in family life the emotional stability and physical health of the mother is the keystone of the family's stability and health.

A study of many women shows that the difference does not lie in level of income, or in number of children, or in sickness or health. One woman, the wife of a successful corporation lawyer, does all the work for her family of five children since her long established maid left to go into a war plant. In the last three months she has weathered with her family a round robin of mumps, whooping cough and athlete's foot. Yet she is serene, even a bit humorous, about it all. Another woman with two children, both of school age, has a one-day maid who does the heavy cleaning and the laundry. Yet she is distracted because she must manage living in a strange, crowded city without a full-time maid to help her through the undoubtedly difficult hours between 5 and 7 o'clock. The clue to the difference lies in the way each woman han- *(Continued on page 618)*

Chevalier Jackson and the BRONCHOSCOPE

By J. ARTHUR MYERS and VIRGINIA L. DUSTIN

WHEN naked eye inspection was the chief phase of a physical examination man recognized diseases which developed on or near the surface of the body but often failed to recognize those of the internal organs until postmortem examinations were made. Areas of disease in the nose, mouth and upper part of the pharynx could be seen by looking directly at them, but the lower part of the pharynx and larynx were obscured from direct vision. In 1854, Garcia invented an instrument known as the laryngoscope, which could be passed through the mouth to the throat, and with a system of mirrors the larynx, including the vocal cords, could be clearly viewed.

However, the laryngoscope did not permit vision of the air passages below the larynx, or of the esophagus. If these passages were obstructed by foreign bodies or attacked by disease, there was no way to make a satisfactory examination. When diphtheria was a common disease, in the days before antitoxin, it frequently attacked the larynx and produced a membrane so extensive that the air passage through the larynx was completely closed off, or resulted in so much scar tissue that the air passage was closed off soon after the diphtheria was over. Thus it was impossible for air entering through the mouth or nose to reach the lungs.

In 1825, Bretonneau devised an operation known as tracheotomy, which consisted of cutting through the surface of the neck into the trachea just below the larynx or Adam's apple. This permitted air to flow directly into the trachea, thus reaching the lungs to sustain life. Tracheotomy was also used when cancer began to close off the air passage through the larynx or when a morsel of food entered the larynx and blocked the passage of air. After the opening was made in the trachea and the emergency was passed, if the obstruction was due to disease and could not be removed, a silver breathing tube was inserted in the trachea through which the patients could breathe.

Bouchut, of Paris, introduced intubation in 1856-58, and this procedure was perfected by O'Dwyer of Cleveland, in 1885-88. A silver tube was passed along the air passage of the larynx when it was obvious that the membrane and inflammation would soon close this passage, and the diphtheria sufferer breathed through the tube, thus avoiding the necessity of having an opening made in the trachea. However, the tube had no role to play in the case of obstructions such as large foreign bodies in the larynx. No doubt tracheotomy and the intubation tubes stimulated the development of instruments for removing foreign bodies from the lower air passages and inspecting them for disease.

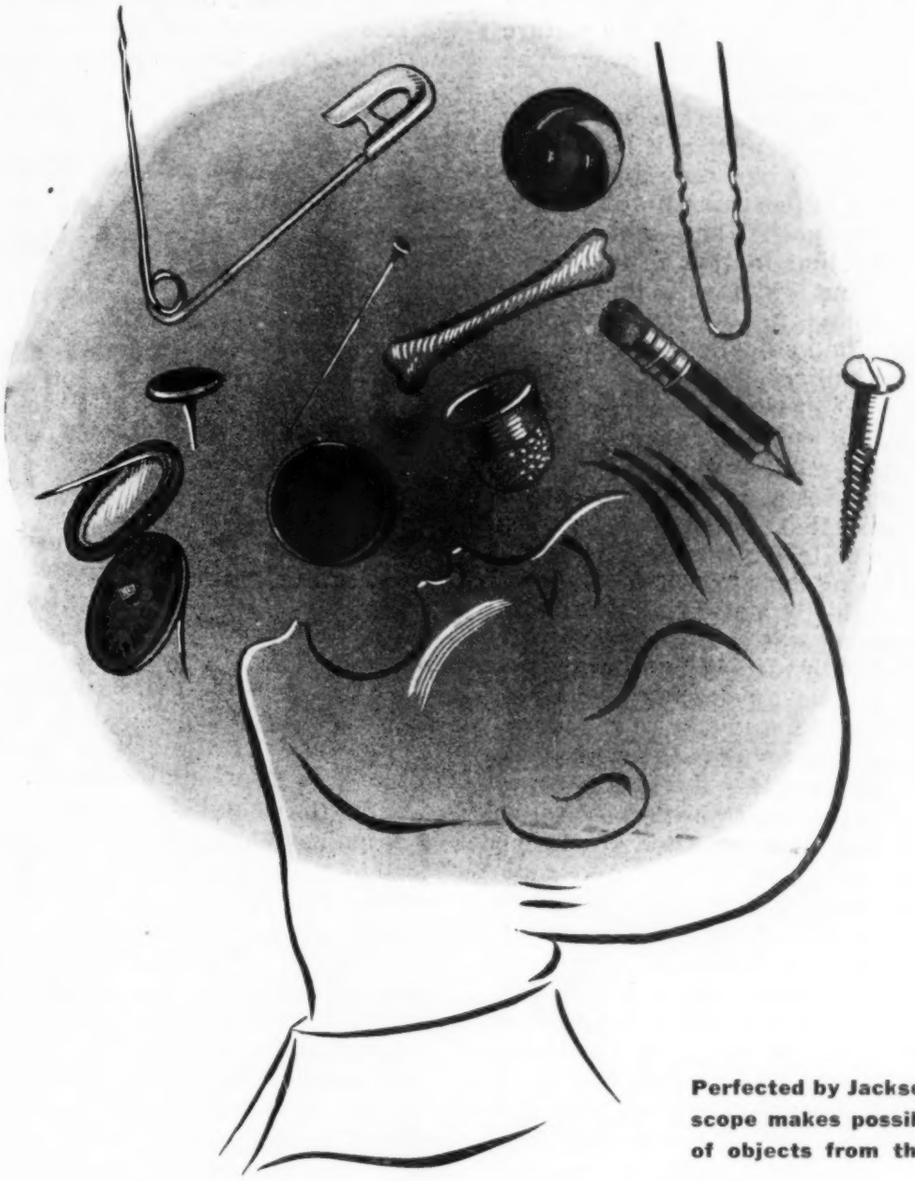
For this purpose, Killian in 1898 introduced a bronchoscope, which consisted of a rigid, straight, metal tube that could be passed into the trachea through the mouth, throat and larynx, or directly through a tracheotomy wound. The instrument was crude, and the original procedure for its use was not entirely safe, for about 25 per cent of the patients died. The next year Chevalier Jackson, who had previously done a great deal of work with intubation and tracheotomy tubes, turned his attention to bronchoscopy. He had worked extensively with the laryngoscope and esophagoscope and learned to remove foreign bodies from the esophagus and locate areas of disease.

It was obvious to Jackson that special instruments must be devised, and his improvement of the bronchoscope and large numbers of attachments followed. His work has been so carefully and accurately done that patients have been sent to him from practically every corner of the earth. The bronchoscope has come to be one of the most important parts of our diagnostic equipment. With electric lights and mirrors, the bronchoscopist can actually see the lining of the trachea, the bronchi and their larger ramifications. When areas of disease exist, he can see and describe them. With special attachments, he can actu-

ally remove small tumors growing inside the trachea and bronchi and obstructing the passage of air; he can aspirate accumulations of pus; he can administer local applications of drugs; and best of all, he can remove small pieces of tissue from areas of disease so that they can be examined under the microscope. Bronchoscopic inspection reveals areas of disease which cannot possibly be detected by x-ray or any other means of examination.

hundreds of dollars, was dropped to apparent oblivion. The workmen were certain they could not be recovered. " 'Tain't possible, Mr. Jackson. She's down more'n fifteen hunnerd feet, 'n' the bottom is plugged full of rope—ol' rotten, wet, soaked rope rammed down like a wad in a gun. . . ."

Only Chev Jackson had hope of retrieving the tools. He made a sketch of an instrument which he thought would pull them out and



Perfected by Jackson, the bronchoscope makes possible the removal of objects from the air passages

Much of what we know about bronchoscopy today is due to the work of Dr. Jackson, who was only a boy in knee pants when he solved his first "foreign body" case. It happened during the drilling of a test well on his father's property in Pennsylvania. The drill rope broke, and a half-ton of drilling tools, worth

showed it to the foreman, who shook his head disparagingly. Chev came back later with a little wooden model of the tool, and this time the foreman rushed the model and sketch to a plant in Pittsburgh where drilling tools were made. They sent back a long, harpoon shaped affair, triangular in *(Continued on page 628)*

YOUNG MANHOOD

ONE Saturday we came to town and hitched at the racks around the Square. The usual way, when time came to start home, was for my father to get the team and drive up in front of the grocery store, where one of the men would bring out the sack of flour and dump it in the back of the hack. A little white cloud would rise. My mother and I would get in, and soon we'd be jogging past the water tower. But on this particular day, for some reason or other (certainly not any eagerness to get home to the chores), I went to the hack first. As I climbed in I saw a small booklet, gray in color, with the picture of a wretched looking man on the cover. The title was "Lost Manhood."

I had vaguely heard the phrase but hardly knew what it meant, except that it had something to do with sex. I had only a glance or two at it before my father came up. I stuffed the booklet into my pocket and said nothing about it. But, for that matter, I never said anything to him about sex, nor did he ever say anything to me about it. Indeed, I think I would rather have had a beating than speak to my father on the subject of sex.

I GOT to read some of it while we were choring, and what I read hit home. It was addressed to young men, as the booklet said, "between the age of sixteen and the age of marriage." It said that young men between these ages were apt to experience the debilitating effects of losing their priceless manhood. This came about, chiefly, by having dreams in which one's manhood was drained away. The booklet was filled with words I had never seen before. I looked them up in the red-backed, vest pocket dictionary I studied as I rode back and forth on horseback to high school. But the big words were too much for the little dictionary. However, the meaning was unmistakable. Young men all over the country were losing their manhood.

Then it told what losing one's manhood meant. I was shocked at the frightful things that resulted from lost manhood.

As I read, I discovered that I had a few faint traces of lost manhood. Then it described in detail just how one felt when one was losing his manhood. It said that one's mind dwelt on the attractions of the opposite sex, and that yearnings which had best go undescribed rose in one's mind, and that at night one was apt to dream about the opposite sex. And that when one awakened in the morning he was apt to experience a kind of lassitude and wish he didn't have to get up. I read that again, a vague fear taking hold of me.

Also it said that at the end of a day a person was apt to feel unduly tired. And so each evening, after riding home from school and as I helped milk and do the chores, I found that I felt unduly tired. The book further said that unless one corrected his waning powers of manhood this tired feeling would grow on him. In no time at all mine was growing on me.

The thing that hit me deepest was the part about "bad dreams." Each time one experienced a "bad dream," just that much of his manhood was drained away. I was alarmed, for this was exactly what was happening to me. And each time I thought, "I've lost just that much more of my manhood."

The book described the dreadful things that would happen when a young man entered into what the book called "the married state" if he had lost the right and due of every man—virile manhood. I gave a jump. I certainly wasn't going to be virile if these wasting dreams kept up.

The book said that if one chose to watch his lassitude and his unduly tired feeling he would discover these were growing on him. Mine were growing alarmingly.

ALSO the book said that if a person took the pains to observe he would find he was subject to recurring irritable spells. Sometimes, when I was trying to get my horse into a trot, I would become so mad that I wanted to kick his sides in. Then, sickeningly, it would flash over me what *this* was, and I would slip back into my little world of terror.

I was at the age when a boy is oversecretive and suffers deeply but will not, for anything in the world, reveal that he is living the private life of the damned. I would look at my father and wish I could ask him, but I would rather have died than do that. And this was too personal to ask other boys. I could not bring myself to speak about losing my manhood.

But all the time I was losing it. Every few nights, a little of it would go. Pimples, the book said, were a sure sign. Each time I looked in the mirror, there was a damnable, telltale mark.

By HOMER CROY

THE end of the book told how one's manhood could be restored. I had read that, too, but there was a catch, for it cost $5 to save one's manhood. This could be done by sending to the company in Lansdowne, Pa., and getting their sure cure. It never occurred to me to doubt this, for it was not only there in print, but also there were the names and addresses of a dozen young men who had been saved from a fate worse than death!

I wished with all my heart and strength I could send and get the sure cure, but this was impossible, for I did not have the money, and if I asked my father for it there would be questions.

But I *must* get it, for I now began to suffer from what the book pointed out would follow in extreme cases—loss of appetite and waning mental vigor. I found that the book was exactly right. I didn't feel hungry any more, and, to my terror, I found that in class I did not recite nearly so well.

There is no truer saying in the world than that one does not know what he can do until he *has* to. I would get that money, some way or other. I had $2 of my own. I *must* get the rest.

Newt Kennedy, our neighbor, was surprised when I came walking across the cornfield and asked him if I could help him shuck. My great, burly, laughing, good-natured giant of a friend said I certainly could and to pitch right in. Then I had to let it be known I wanted pay. A little slow-up, here.

There was plenty of corn to husk at home, but there was no chance of getting paid for that.

NEWT shucked along for a while, studying me and watching me, and said I could pick on Saturdays.

I helped Newt—always a delight—and as we shucked we talked and laughed and enjoyed it thoroughly. Suddenly I would remember my lost manhood, and a feeling of utter weariness would overwhelm me. I could hardly bang an ear of corn against the throwboard. But Newt was such good company, I'd soon forget my troubles, would be visiting with him again and the corn would be flying.

In a couple of Saturdays I had enough and went to the post office and sent a money order, the way it said in the back of the book.

It was not long before our express agent sent me a post card saying he had a package for me. There it was at the express office, wrapped with manila paper and tied with heavy twine, with blobs of sealing wax over the knots.

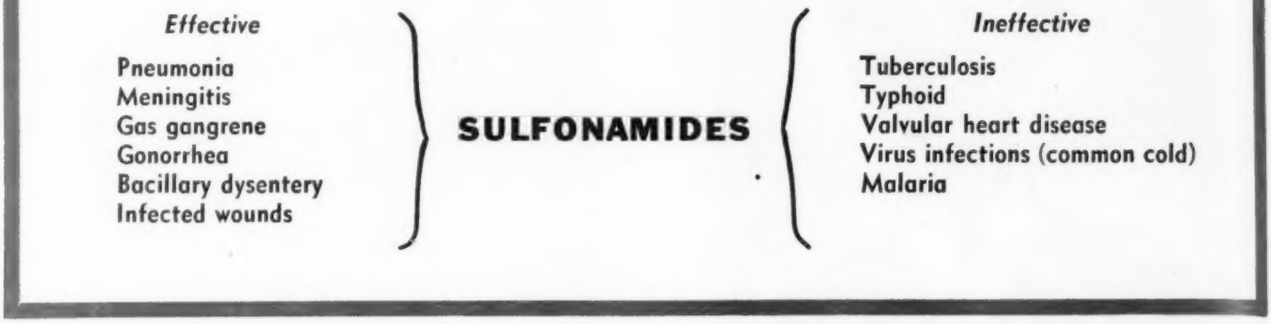
I opened it on the way home and found a box about two-thirds the size of my palm. When I took off the lid I found three compartments, with a layer of cotton across the bottom of the box. Each compartment had a dozen or so colored pills, with the color for each compartment different. Pasted on the side of each compartment was a little slip which said, "Take a pill of this color the first day," "Take a pill of this color the second day," "Take a pill of this color the third day." Then a line which said: "Now go back to first day's pills and begin over."

THERE was a folder inside which said that the person taking the pills would not immediately experience any change, but, bit by bit, would begin to feel better; if he continued faithfully to take the pills, he would completely recover and be returned to sturdy manhood.

I looked at the pills with a deep sense of faith. They would save me.

Each evening I would take a pill. The instructions were right. At first, exactly as they said, I felt no change. Then—so deep and profound was my faith—I began to feel better. The pills, of course, had done nothing except to relieve me from worry—a worry created by the pamphlet that was circulated by the man who sold the pills and which had served its purpose in causing me and many another lad to feel that a normal reaction of the body was the beginning of a dangerous disease.

THE SULFA DRUGS



The sulfonamide drugs are not by any means useful in combating all types of infection

By E. M. K. GEILING

THE worldwide interest in the sulfonamides, or the sulfa drugs as they are popularly called, is aptly illustrated, in a light vein, by a cartoon which recently appeared in *Collier's*. This cartoon depicts a witch doctor standing over his moribund patient saying, "I'm too tired to go into my dance. Here's a prescription for sulfanilamide." Another cartoon in one of the local dailies depicted a young boy who had struck his knee asking his mother if there was any sulfonamide or penicillin in the house in order to treat the injured knee.

Before the days of the sulfonamides, there were no safe and satisfactory drugs which were effective in the treatment of such bacterial diseases as pneumonia, meningitis, gonorrhea and bacillary dysentery. Some infectious diseases were treated with specific serums, and the results were, in many cases, gratifying. However, in spite of the advances in the serum therapy of infectious diseases, there were limitations to the use of these agents. These serums were difficult to obtain in isolated communities; they were costly and liable to deterioration. In addition, considerable care, equipment and technic are required for their proper administration to a patient. It is a great advantage to have a drug which is stable, relatively inexpensive and capable of being taken by mouth.

A new epoch in medicine began in 1935 when the sulfa drugs were introduced for treating a number of these serious diseases. This group of drugs has a relatively simple chemical structure, and to date over 2,000 compounds of the group have been prepared in synthetic organic chemical laboratories in all parts of the world. Out of this large number less than ten members have found their way into practical medical use in this country. The following are employed at the present time by doctors: sulfanilamide, sulfapyridine, sulfadiazine, sulfathiazole, sulfaguanidine, sulfasuxidine, sulfamerazine and sulfapyrazine.

AMONG the diseases against which these drugs have proved valuable are pneumonia, meningitis, serious blood infections, bacillary dysentery, gonorrhea and others. They are also widely used in minor and major wound treatment to prevent the development of serious or fatal complications. Many thousands of lives, especially among our fighting men on the battlefronts, have been saved by the use of these drugs.

In all past wars, disease has been responsible for many more deaths than have munitions. During the Spanish-American War seven men died from disease for every one killed in battle. In the Civil War 50 per cent of the wounded died. Since then there has been rapid progress in the treatment of disease, especially in the handling of wounds, so that in World War I only 6 per cent of the United States Army, 7 per cent of the Navy and 12 per cent of the Marines who were wounded died. It is gratifying indeed that in the present war only slightly over 3 per cent of wounded men in our armed forces have succumbed. Medical progress is even more striking than is revealed in these low figures, because many of the wounds are so serious that before the advent of the sulfonamides they would have proved fatal. This is the testimony of physicians who served in World War I and are again in service during this conflict. Of

AND PENICILLIN

Effective		*Ineffective*
Pneumonia	PENICILLIN	Tuberculosis
Meningitis		Typhoid fever
Osteomyelitis		Valvular heart disease
Gas gangrene		Virus infections (common cold)
Primary syphilis		Fungous infections
Gonorrhea		
Boils, carbuncles		

—and neither is penicillin. See table on page 616 for their comparative effectiveness

course, this remarkable progress in the treatment of our wounded is not all due to the new drugs. The relief of pain immediately after injury, the giving of blood substitutes and the rapid evacuation of wounded men, as well as good surgical and nursing skill, have all been contributory factors to the enormous saving of life on the battlefronts.

Before the sulfonamides were available, the death rate from pneumonia was about 30 per cent; nowadays, with the proper use of either the sulfonamides or penicillin, the death rate is reduced to about 8 per cent. An equally striking reduction in the death rate has occurred in the case of meningitis. Meningitis occurs wherever large numbers of troops have been brought together. During and after World War I there were in the United States Army a little less than 6,000 cases of meningitis in the course of thirty-three months. The over-all mortality for this series of cases was 39 per cent. This high mortality rate has been cut down by the use of the sulfa drugs to a little less than 3.5 per cent in the present war. The sulfa drugs, when properly employed, bring about remarkable and prompt cures in this dangerous disease. In addition, the sulfa drugs, especially sulfadiazine, are quite useful in destroying the organisms of meningitis in healthy persons who harbor the bacteria. These individuals are called "carriers" and may be one of the causes for dissemination of the disease. Whenever a carrier is located the successful destruction of the organisms can be brought about by the use of sulfonamides.

GONORRHEA, a disease of great social and economic importance, can in most cases be effectively treated with the sulfa drugs. Consequently, we find that the venereal disease rate has also markedly decreased among our troops in the present conflict. Venereal disease is of tremendous importance in the armed forces, not so much because of high mortality, but chiefly because of the disability or "non-effective rate"—a term used by the military.

I have stressed the great value of the sulfonamides in diseases affecting our troops, but the saving of lives in our civilian population has been equally striking since the introduction of the sulfa drugs into medical practice.

FURTHER illustrations could be given, but these few will suffice to indicate the remarkable advance which has been made in the treatment of these diseases. Useful as they are, there are still infectious diseases against which the sulfonamide drugs have to date proved ineffective. Among the chief of these is a bacterial infection of the heart valves, known as bacterial endocarditis.

The layman has been acquainted chiefly with the great value of the sulfonamides, but there is another side to the story which I feel obliged to stress. One cannot emphasize too strongly, particularly to a lay group, that these useful drugs are also dangerous if improperly used. Among the chief toxic reactions resulting from these drugs are the following. Minor: nausea, vomiting, dizziness and abdominal pains; moderate: painful joints, mental disturbances and skin rashes; moderate and severe: destruction of the blood-forming elements and jaundice. Kidney gravel may also be formed and may prove fatal. There are, of course, other reactions, but these are among the common ones. Unless there is careful supervision when these drugs are administered, they may actually prove fatal. The extensive and ill-advised *(Continued on page 616)*

By HARRY SLATTERY

AMERICANS, at war today, stand on the threshold of a new world tomorrow. It is a curious commentary on our civilization that wars give impetus both to scientific advances and the application of new discoveries in our manner of living. This war has compelled American science to don seven-league boots so that it can outstride the crafty inventions of our enemies.

The life and health of this nation are going to be improved even faster after this war than the conditions of farm life were changed by electricity during the seven years before the war broke out. Necessarily, most of the recent scientific discoveries have been kept secret, but some of our "secret weapons" are coming to light through dispatches from Europe, Africa and the South Pacific. To engineers and men of science, each new weapon reveals its story of laboratory research pushing back our frontiers—especially in the field of electricity.

We do not yet know how far science has gone. We do know enough, however, to be able to say it will probably make little difference whether you live in the city, on the farm or in the suburbs: Electricity will have new wonders in store for you.

In Washington, not long ago, this situation was forcefully called to my attention. I was entertained in the home of a charming lady who had been fortunate enough to obtain the best and newest equipment late in 1941.

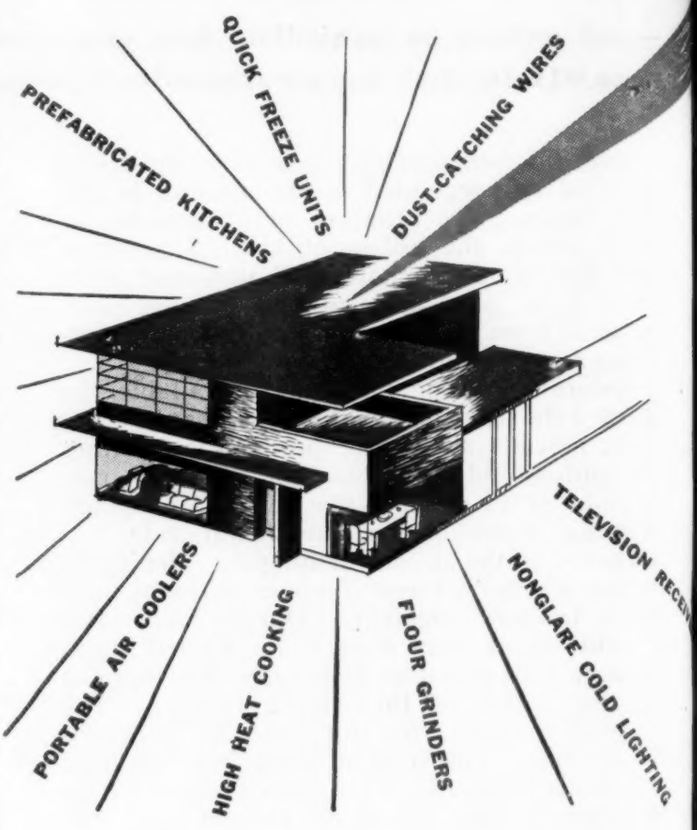
"Her home is wonderful, indeed," I told my companion, a well known engineer, on leaving. "Air conditioning, the electric range, the automatic washer and the electric refrigerator with storage space for frozen foods—they're all wonderful."

"Yes," he said, "but as soon as the war's over, they will all be out of date. Every one will want something better."

I was also in Washington many years ago when the Armistice of 1918 was signed, and I can tell you that the young men who came back from France had their eyes turned to the future. They sought better homes, mass production of automobiles, good lighting and plumbing, thousands of ingenious mechanical devices.

When peace comes after this war, millions of our finest young men and women are going to come home with their heads full of ideas about what science can do. The Army and Navy have trained many of them in technical fields. They know that we can now take pictures in the dark with infrared rays. They know that electronic tubes (the same type of tubes used in your radio) have been improved to control hundreds of difficult tasks, such as guiding pilotless planes.

They will want the wonders of the electric eye and radar translated into improving their own working and living conditions. These young men and women will know about and want farm and home freezers, home flour mills, cold cathode lighting, television and new developments in air conditioning. They will not take no for an answer. Just as they had the best weapons with which to wage war, they will want for themselves and their families the best equipment for a life of peace. The best our factories can turn out is none too good for them; as soon as conversion to peacetime production has been completed, the factories will be in a position to turn out hundreds of new and improved electrical appliances for postwar homes.



Throughout the war, frozen foods and frozen food storage have assumed increasing importance, and many people who raised Victory Gardens now see new possibilities for producing and preserving their own food. Rural Electrification Administration engineers have prepared functional specifications for a lift-top home freezer and storage chest which is being tested at the government's Beltsville Research Center in Maryland.

This freezer, while designed especially for farm use, would also be suitable for suburban

and, perhaps, city homes. The box is 20 cubic feet in size, and about one third of the capacity is designed for quick-freezing. When the storage compartment is full, however, the freezing section can also be filled with food.

ELECTRICITY IN YOUR POSTWAR HOME

The freezer will hold as much as 1,000 pounds of meat or 500 pounds of fruits and vegetables. It is operated by a one-half horsepower motor and is expected to use an average of 125 kilowatt hours per month. At 2 cents a kilowatt hour, the monthly cost would be $2.50.

Even before the war, a household refrigerator with frozen food storage space was on the market. Now many manufacturers have a wide variety of designs for postwar home freezers to meet almost any needs. Proposed freezers range from a 4 cubic foot box selling as low as $175 to walk-in freezers occupying a whole room in the house or basement.

It is difficult to grasp the full postwar significance of frozen foods as long as we talk merely in terms of the home. Commercial preparation of foods will, of course, keep step. There have been some experiments with freezing precooked foods, and one caterer is reported to have offered complete "frozen meals."

It is conceivable that stratosphere planes may be used after the war to carry foodstuffs from one section of the country to another. Fruits and vegetables, packed in containers and stored in the plane, would automatically be quick-frozen within a few minutes after the plane entered the stratosphere. Then insulated doors would be shut, sealing in the cold, and the cargo would be delivered to the market just as our frozen foods are today, but the mechanical step of quick-freezing would be eliminated.

My friend and co-worker, M. M. Samuels, author of "Power Unleashed," says that in the past we have controlled temperature mostly in one direction—upward. When it was cold, we built fires, or used other means of heating—such as electricity. But when it got hot, the best remedies most of us could devise were fans, easy chairs and mint juleps.

The engineers think that in the future we are going to do something about hot weather, too. One proposal is for a portable air conditioner which can be moved on wheels from room to room. This would be a plug-in device. The housewife might use it in the kitchen during the day, in the living room during the evening and in the bedroom at night. Such room coolers will probably be available after the war at a reasonable price, and estimates of sales range from 100,000 to a million a year.

Of course, if you build a new house after the war, the architect will undoubtedly include an air conditioning system as complete and efficient as your present heating plant. Recently devised electronic devices may contribute to the effectiveness of the new air conditioning systems, and the cost of this equipment is likely to come within the reach of more and more home owners.

Electricity, too, will provide better lighting for our postwar homes. While wartime experiments may not actually bring about revolutionary changes in our lighting plans, fluorescent lighting and cold cathode lighting have already progressed far enough to make us realize that our present idea of what constitutes good lighting will soon change radically. Fluorescent fixtures are, even now, highly desirable for kitchen, bathroom and laundry. With further refinement of our lighting methods, the house of tomorrow may, very conceivably, have nonglare, cold light streaming from its walls and ceiling. We may go even further and permit our lighting fixtures to diffuse through the room health-giving or bacteria-killing rays invisible to the human eye.

All such developments will affect the appearance and plans for our postwar dream homes. On the other hand, the general pattern of postwar housing may also *(Continued on page 604)*

GOOD CHAIRS
FOR GOOD POSTURE

By ALICE CHRISTGAU

THERE are probably dinner guests who on arriving at the home of their hosts sniff the air eagerly to determine whether it will be turkey, fish or even steak to which they may bring their ration-pointed appetites. I am not among them. On such occasions my eyes are more curious than my nose, and first I scan the dining room, not to admire the table service or the flower arrangement, but to see what the chairs are like.

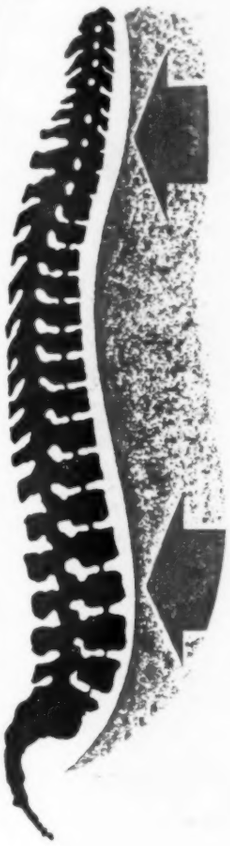
Absurd, you say? Not at all, to any one who has a weak back, and a large percentage of people, particularly women, are troubled by that ailment. To such people the enjoyment of a dinner is dependent more on good seating than on good cooking, and unfortunately most modern dining room chairs are not conducive either to comfort or good sitting posture.

I had imagined myself alone in this peculiarity, and whenever I found the chairs beyond endurance anywhere, I would surreptiously reach for a pillow, my large purse, or even a jacket which could be wadded into a support where one was lacking. Failing anything else, I could always place my hand between what there was of a back rest in the chair and the weak spot in my back. When I saw a large, strapping man assume that position for the greater part of a meal one evening, skilfully eating with his free left hand, I concluded that I had found a fellow sufferer. I mentioned it to him later and was not surprised to have him explode wrathfully, "People who can't provide decent chairs should not give dinners! The only time I feel my sacroiliac trouble is when I've been on my feet all day and then have to spend the evening sitting in some of the awful chairs people buy for their dining rooms." I had felt that way so often that this served to establish kinship between us at once. We agreed in the old established protest that "something ought to be done about it.

Too few people realize the correlation that exists between good posture, sitting as well as standing, and back trouble. Yet physicians are agreed that correct sitting posture has much to do with a healthy spine and the correct functioning of our internal organs. When a specific ailment like arthritis exists, a necessary part of the treatment that must not be ignored is posture—both active and resting.

My own case is fairly typical. In an automobile accident several years ago I received an injury to my lower spine, but it was not until months later that any serious trouble developed. I learned then that arthritis had developed, not only in the immediate region of the injury but also higher up in the spine. I cannot say that this trouble has grown appreciably worse over the years, partly because of a program of heat, massage, rest and careful diet. If I were always careful to avoid strain and worry and to have good back support when seated, I should have a negligible amount of pain. Strains are not always easy to avoid in these days of stress, but surely it should be possible to sit in good chairs whether one is in a private home, a church, an auditorium or an office.

Many homes have luxurious, deeply cushioned chairs in the living room which seem



Ladder-back, splint-back, lounging and folding chairs fail to provide support for the spine where support is needed to aid good posture

the last word in comfort when one sinks into them, but actually the downy softness is as bad from a postural point of view as being propped up with pillows in bed. The spine was never meant to coil like a snake. Chairs with spring-filled backs are much better, and most davenports and sofas, except the antiques, are good in this respect. It is in the dining room, however, that the greatest crimes aginst good seating are committed. The lyre-back chairs, the ladder-back and the splint back may all be authentic originals, but they are instruments of torture as far as I am concerned. There is never enough support at the base of the spine, which is where it is needed most. And the elaborate, carved backs, the straight and curving splints, serve no purpose except to prod into the flesh in unexpected places and add to the general discomfort. Occasionally I come to dine in a home where the chairs are spring-upholstered all the way down the entire back. Then I am the most contented of guests. The hostess can serve hamburger and it will seem like T-bone to me. I have my own version of Ben Franklin's famous quotation. It is, "A comfortable back maketh a cheerful mind which maketh a good stomach."

However, in these days of points and rationing one need not worry too much about the chairs found in other people's houses! But what of the chairs encountered in other places where people gather—in an average auditorium, for instance? Usually, buying a seat for an entertainment means buying just a seat, for one need look for no back support worth mentioning! The typical folding chair which is so often used to seat large audiences with an economy of space consists of a strip of metal across the shoulder blades, and only wide open spaces below. One can see the sagging postures through these apertures, and the discontented faces that belong to those backs may not indicate that the high school play is bad; it may be that the chairs are. Moving picture theaters and the better playhouses with their well designed seats, often comfortably upholstered in leather, are showing not only sound business sense but good hygienic judgment. One goes to such entertainments for relaxation, and who can relax when uncomfortable? Churches also show better judgment in this respect. The old-fashioned, rigid pews of yesterday's Churches have given way to those conforming to an easy, relaxed back position—so Church attendance no longer entails stiff necks and fatigue.

The modern office chair is scientifically designed to give support to the small of the back, so most typists, stenographers and clerks can be assured of proper posture during a working day. But teachers are not so fortunate. In the city of over one hundred schools where I occasionally fill in as a substitute teacher, every schoolroom I have been in is fitted with chairs representing a minimum amount of comfort as well as cost. The back of this all city champion school chair consists of two curved splints which come together sharply in the region of the shoulder blades—in the manner of two horseshoes being joined at the top of their curves. No other part of the back receives any visible means of support, unless one happens to be very broad, in which case the ends of the horseshoe splints where they join the seat of the chair may give some comfort to the back of the hips. I can readily understand that a tired teacher would receive little rest and relaxation from such a chair in the course of a hard day. Perhaps that is one of the reasons for the high rate of absenteeism among teachers in this city. Not only does bad posture at work aggravate the pain in an arthritic spine, but it is also given by authorities as a contributing cause of arthritis. It may also induce spinal deformities, of which curvature is one of the most common.

We fare better from a sitting standpoint when traveling than we do anywhere else. Automobile seats with their firm, yet resilient, spring-filled backs are well designed, as are train and trolley seats. And the seats on a modern airliner seem *(Continued on page 632)*

Body Density and Health

By PHILIP REICHERT

Stimulated by research in aviation medicine, a new concept of health—in terms of the specific gravity of the body—is emerging and rapidly gaining recognition

THE DOCTORS of the Army and Navy study the problem of human health with the proverbial Chinese slant. They are not interested so much in the difference between sickness and health as they are interested in different kinds and degrees of being healthy.

Men who go down to sea in diving suits or up into the clouds in flying gear must be healthier than ordinary mortals because they must overcome conditions that ordinary mortals never face. And while doctors have studied the differences between health and disease for many years, the idea of scientifically measuring the degree of health is relatively new. It taxes the invention of the cleverest doctors, because they are measuring things that have not been measured before.

A time tested notion, borrowed from the statistics of insurance companies, is the idea that there is a best height and weight for an individual of certain age and sex. People who are much overweight or underweight when compared to the standard tables seem to take a greater risk of being ill—statistically, of course—and therefore might be regarded as at the brink and therefore less healthy.

However, such a concept is difficult to reconcile with actual facts. Take the case of a bulky, 250 pound fullback, grossly overweight and yet in the pink of physical condition, with stamina and endurance and capable of taking terrific punishment. The ordinary 250 pound man has none of these. Thus there must be some other criterion than weight, because although two men may weigh the same, an average fat man is as different from the fullback as a man can be. For your ordinary fat man is flabby and puffy; he can hardly walk without trouble in getting his breath, and he pauses on every third step when he climbs a flight. He has notoriously no stamina nor endurance. He cannot even tie his shoelaces without a struggle!

It is obvious that there is more to this subject than body weight. As a matter of fact, weight itself is different for different things—there are actually many kinds of weight. A pound of iron is a little, compact mass that you can hold within your hand. A pound of wood is bulkier. The iron sinks in water, and the wood does not. A pound of feathers is lighter still, and almost floats in air, which wood does not. Yet each one weighs a pound. They are different, of course, in structure; wood is more loosely put together than iron. Iron is more compact and dense; feathers are much less dense than either. Density—that is the secret of the difference!

How can we measure density? For that we must go back to Archimedes, the Greek who

jumped out of a bathtub and rushed down the street shouting "Eureka!" ("I have found it.") What he had found was the method of expressing density in mathematical terms. When a body is weighed while it is immersed in water the water buoys it up by an amount which is mathematically equal to its lack of density. Your compact pound of iron gets practically no buoyancy from water and weighs almost a pound when it is immersed. Wood, on the contrary, is buoyed up considerably—so that we can measure the difference between iron and wood by comparing their differences in weight when they are immersed. A pound of wood will not weigh nearly so much when it is in water, and some kinds of wood can hardly be submerged and will float on the surface of the water and weigh practically nothing at all!

Every one knows that a fat man can float, while your lean, hard, skinny man must work to keep his nose above the water. Doctors found other things about fat men which were intensely interesting to them from the point of view of diving and aviation.

Did you ever hear of "bends," the disease that divers get when they come up from a long deep dive? They work down there under compressed air; sandhogs building tunnels and caisson workers have the same conditions. They know by long experience that they cannot come up to the surface directly but must come up slowly—by "decompression," as they call it. If they don't, they are doubled up with pain; every joint shrieks.

Doctors found out that this pain was caused by particles of nitrogen that got out into the blood stream too fast to be carried away by the natural process of respiration. If they come out much too fast they can cause clots, and the diver or caisson worker may die. The difference between the ocean floor and the street surface is much like the difference between the street surface and the altitudes to which a flier climbs. It is not too surprising to find out that if a pilot shoots his plane up into the stratosphere he, too, can get the "bends." For the same reasons, "decompression" comes too quickly.

Now here is a remarkable fact! Some men are more prone to "bends" than others. It was noticed at last that the hard, lean, muscular man suffered much less than his seemingly "healthy" co-worker who was a little softer, a little bulkier—not really a fat man but one who certainly seemed to have a greater proportion of fat than the man who suffered less.

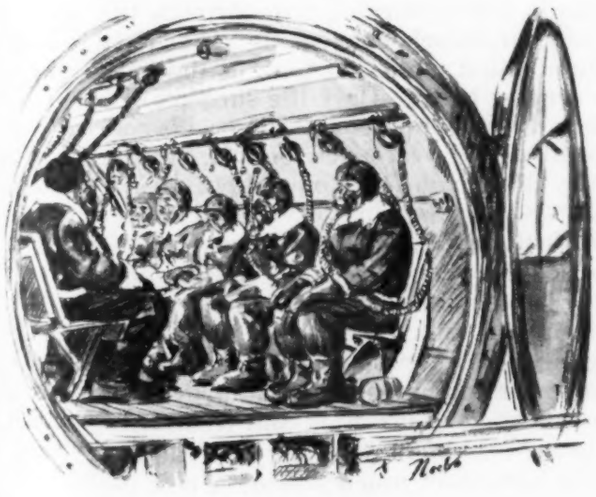
One clever young doctor in the Navy thought back to the insurance statistics and wondered whether weight had anything to do with this. He started looking back over the records to see. In general, he found that as a man put on weight he was more susceptible to "bends," but that this rule wasn't rigidly true. Finally, he realized that the answer seemed to be—not weight, but the proportion of fat. Quickly he enlisted the aid of laboratory workers and found out that one of the inert parts of the air we breath, the nitrogen, which is the gas that is responsible for the pain, was very soluble in oils and fats.

At last he had the secret! The man who had little fat in his body did not dissolve much of the nitrogen, therefore he did not need the slow decompression and rarely got the bends.

How could we apply that knowledge to the selection of men for diving and flying? Back we go to Archimedes. If a fat man floats and a lean one doesn't, and if weight alone doesn't count, possibly the "dense" man is the man with little fat, and we might be able to pick out the fat man by measuring his density rather than his weight.

So now we are weighing our pilots and divers under water! We are calculating to a nicety the percentage of fat they have compared to muscle, bone and the denser tissues that do not take up nitrogen gas. We know that our husky fullback in all his 250 pounds has a smaller proportion of fat than a sedentary worker who weighs much less, and we now know why the fullback is a better risk, farther from the brink of disease. We will soon be able to foretell the optimum amount, or the best proportion of fat, a man should have. We are revising entirely our concepts of the height-weight tables and bringing in new ideas based on these new necessities that human strength must face.

Tests made in airtight chambers in which pressure may be raised or lowered at will have shown that body density aids in resistance to "the bends"



STREAMLINE YOUR

By JOHN B. SEARS and ARNOLD STARR

IF YOUR DOCTOR should order you out of bed the day after your operation, do not think he has suddenly lost his mind or that the hospital bed shortage has become even more acute. He would only be giving expression to a significant and striking change in surgical care—namely, *making patients more active in bed, getting them out of bed earlier and getting them home sooner.*

A European report which smacks of Dr. Goebbels and the New Order was quoted recently in the authoritative *Journal* of the American Medical Association. According to this article, the assistant of a celebrated continental surgeon had his appendix removed, after the tissues were numbed by a novocaine injection. The young doctor stepped down from the operating table and forthwith acted as assistant at the next operation, and afterward walked about! Yet his recovery was prompt. The young man, to achieve supreme distinction, might just as well have operated on himself! Of course, our reaction to such conduct is to condemn it as sheer bravado—or even as propaganda—but it illustrates, in an extremely dramatic way, ideas which are receiving increasing attention in enlightened surgical circles.

SEVERAL generations of students in Boston have been entertained by the story of Pat Dugan, a stolid citizen, who had his "rupture" repaired one morning in a small private hospital near the South Station. Hearing the clamor of fire engines that afternoon, and being somewhat drugged, Pat believed himself to be in a burning building and thought that the firemen had overlooked his room. Quickly forgetting the ache in his incision, he clothed himself and made his way home via the back stairs and the jostling subway train. While such radical postoperative athleticism is not commendable, Pat suffered no harm from his unique experience.

In the early days of modern surgery and obstetrics, patients were kept in bed for three or more weeks, often to the point of boredom and exhaustion, in many instances surrounded by sandbags or other encumbrances; it was believed that their wounds would thus heal best. Even today such harmful, prolonged and enforced bed rest is not unknown. It has long been recognized that immobilization of the aged and decrepit patient is frequently followed by fatal lung complications. So well known is this fact that it is an almost universal practice to get elderly people out of bed very soon after the most serious operations. A paradoxical situation is thus created when relatively strong and young persons have to remain recumbent for longer periods. Indeed, medical students repeatedly question their teachers about this inconsistency. Later, as interns, they may be summoned at midnight by a frightened nurse who reports that a patient whose something-or-other was removed that morning has somehow gotten out of bed and stumbled into the lavatory. Startled and alarmed, the intern helps the patient onto a stretcher and back to bed. Examining the incision, he is surprised to find it intact. He then waits with apprehension while successive days add up to an uneventful convalescence.

PERHAPS Dr. Ephraim McDowell (1771-1830) had a similar feeling of surprise and anxiety. His epic experience has been related at medical meetings where the problem of early rising has been discussed. This Kentucky pioneer, practicing in Danville, then an outpost of civilization, was impressed by the sad and hopeless fate of women afflicted by tumors of the ovary. Remember that McDowell knew nothing of anesthesia and the germ theory; the abdomen was still a "no-man's-land" of surgery. A benign tumor, unmolested, might grow to weigh more than the woman carrying it. In 1809, a Mrs. Thomas Crawford made her celebrated trip through the wilderness on horseback, seeking relief from a huge tumor that made her look as though she were carrying twins. Only the surgeon of the modern era can appreciate McDowell's courage and skill as he proceeded on his kitchen table—the first to do this operation. And what of Mrs. Crawford's bravery? Five days after her ordeal, during which she sang hymns, she was discovered up and about, making her bed!

The idea of early rising after operation was proposed many years ago, but surgical methods were not conducive to the success of such a revolutionary concept. Improved anesthesia, prevention of infection and technical advances in the sewing of wounds have made the modern operation much less of a risk and ordeal

than formerly and have allowed considerable change in after-care.

Having eliminated most of the hazards of his craft, the modern surgeon constantly labors to prevent such troublesome complications as still occasionally confront and plague him. Among these are lung infection (pneumonia) and clotting of blood in the veins (thrombosis and phlebitis). Striking progress is rewarding these efforts. *A very substantial factor in this progress has been the recognition of the importance of early and frequent activity.*

IT has recently been established that the majority of blood clots which may produce lung complications originate in the lower legs. Such clots may extend upward into the larger veins of the thigh or higher. If they are unrecognized, or if nothing is done, a portion of the clot, which looks like a shiny, red, rubbery eel waving in the blood stream, may break off and travel to the heart and lungs. This is known as an *embolism*. Luckily, most clots do not break off, and healing is the rule. But when an embolism does occur, it may cause sudden death or it may be followed by a series of terrifying episodes during which the patient may cough up blood and have severe pain in the chest. Formerly many attacks of embolism were mistakenly diagnosed as pleurisy, bronchitis, pneumonia or heart diseases. Fortunately the newer knowledge provides better diagnostic measures (venography), and what is equally important, chemical methods (heparin and dicoumarin) for the prevention of further clot formation, as well as a surgical procedure (tying the vein) for isolating the clot. This operation, a recent development, is simply a means of locking the horse in the stable—the clot is sealed in the leg, where it is comparatively harmless.

IT is generally agreed that a very important factor in the formation of such dangerous clots is slowing of the blood flow largely through inactivity. This knowledge has pointed the way to a logical revision of postoperative management, and now the surgeon's orders are planned to "pep up" the circulation, especially in the feet and legs. He may therefore request the patient, immediately after operation, to wiggle his toes "a thousand times a day," to move his feet, legs and arms frequently, to take deep breathing exercises, to cough, and to be turned from side to side at regular intervals. He may even give such printed instructions to patients before admission to the hospital, hoping thereby to prevent clotting and subsequent embolism, as well as lung congestion and pneumonia. Early activation is equally beneficial after childbirth.

IT seemed reasonable that the salutary effects of early activity in bed could be enhanced by early rising and walking. This led some imaginative and daring surgeons to test the plan of early rising during the past forty years, even though the proposal was frowned on and never received widespread approval. Currently, pertinent reports and editorial are appearing in American surgical journals. Dr. D. J. Leithauser, a Detroit surgeon, described a favorable personal experience with 913 patients and found 15,000 additional cases reported in twenty-nine foreign publications. After Dr. Leithauser's recent abdominal operations, the confinement

CONVALESCENCE

In many cases, it has been found that getting patients out of bed sooner and home earlier after operation avoids complications and speeds recovery

to bed averaged one day; after appendectomy, hospitalization averaged two and one-half days (9.4 days when the appendix was ruptured); after other major operations, the hospital stay averaged 7.3 days. These figures are significant when compared to similar cases treated according to more orthodox methods. For example, of 39 ward and 287 semiprivate patients who had policies issued by the Massachusetts Hospital Service and who were operated on for appendicitis, the total stay in the hospital averaged 10.6 and 12.5 days, respectively.

In many European clinics, where local novocaine anesthesia has been popular, it was possible to make the patient get off the operating table and walk to his chair or bed—just as simply as leaving the dentist's chair with a "frozen" lower jaw. In this country, after certain varicose vein operations, immediate rising has been a common practice. The late Dr. E. A. Codman of Boston predicted that simple appendectomy would be done some day in the surgeon's office and the patient allowed to go home a few hours later. But most of our major operations are performed with spinal or general rather *(Continued on page 632)*

HOME FRONT CASUALTIES

ISSUED so unobtrusively that it is unlikely over a dozen U. S. citizens, including public officials, are aware of its existence, let alone its significance, the federal government has just completed publication of the most challenging and important book ever put forth from the government printing presses, multigraph and mimeograph machines.

Sober, fact crammed, completely nonpartisan, the most important publication of its kind since 1661, it has been issued in such piecemeal fashion that few would recognize it as a book. Yet it has a table of contents, 352 consecutively numbered multigraphed pages and a single theme more gruesome and yet more hopeful than war. Though its subject is death, its object is life. For this book puts the finger on those who are responsible for the 250,000 or more involuntary suicides and unwitting murders that occur annually in the United States.

This year, 1944, America is at war, holding its breath over the forthcoming announcements of casualties. Yet *every* year—last year, this year, next year—as our book reveals the *how* and *where* in unescapable detail—more Americans will commit involuntary suicide than have died in battle since the founding of the republic. I say it is "involuntary suicide" when a man, woman or child dies unnecessarily, prematurely, through ignorance or indifference; "unwitting murder" when one is done to death by some one else's ignorance or neglect. At last it is for the first time completely demonstrated where we must look to prevent the more than a quarter million home front casualties that occur every year in the United States.

In all the wars in which the United States has engaged, including the Revolutionary War, the War of 1812, the Mexican War, the War between the States, the Spanish-American War, World War I and the present conflict, fewer than 300,000 men have been killed in action or died of wounds.

Fully as many die annually of preventable causes. The case against preventable mortality—or involuntary suicide—is all the more shocking when we realize that there is sufficient scientific knowledge already available in the world to prevent these deaths—if only that knowledge were disseminated among the people and public officials, the editors and the educators who could put it to work. Only doctors—and some enlightened mothers—have taken anything like decent opportunities to

More Deadly than War . . .

By JUSTUS J. SCHIFFERES

apply the available life-saving information.

This revelation in itself is hardly news. For generations, America has taken the fatal waste of its human resources as lightheartedly as it took the destruction of its forests, the depletion of its oil reserves and other unmitigated profligacy with material resources. Even though unquestioned authorities, including the Surgeon General of the United States Public Health Service, have time and again solemnly informed us that the average life span of the American nation could be increased ten years by the employment of available knowledge, somehow we have managed to pass off this valid prophecy, true as an astronomer's prediction of the return of a comet, in the same skeptical spirit that our forefathers adopted toward those cranks and visionaries who predicted the "flying machine."

The great challenge in the little book of mortality that has just been issued by the United States Bureau of the Census is that it must forever kill the vague belief that we cannot do anything about adding years to our national life. True, the little book does not tell the whole story of preventable mortality, but it points exactly to the spots where we can begin today to save lives that might otherwise be nipped by death

The most important predecessor to our book was published in England in 1661, shortly before the great fire of London. Its title was "Observations on the Bills of Mortality," and with it Captain John Graunt and Sir William Petty established the science of vital statistics, which has now culminated in our book. The title page of the new volume bears this modest imprint: Department of Commerce, Jesse H. Jones, Secretary; Bureau of the Census, J. C. Capt, Director; *Mortality Summary,* Vital Statistics—Special Reports, Volume 16, Numbers 1-66; Analysis by Iwao M. Moriyama, Ph.D., under the supervision of Halbert L. Dunn, M.D., Chief, Vital Statistics Division; Washington: 1944. In practice, the book has been issued in short, 4-page pieces, Number 1 coming out July 7, 1942 and Number 66 on February 26, 1944. In truth, however, the book was not two but forty-four years abuilding; its author not one man but thousands of patient clerks and registrars of vital statistics who painstakingly collected and reported the data concerning causes of death since 1900, the facts on which this remarkable presentation is based.

Here at last is the complete and authoritative book without cavil or rival concerning causes of death in the United States. This is the rock bottom manual on which any health—or better, life—planning for the country must be based. In essence, "Mortality Summary," based on 1940 death rates calculated on the enumerated popu- *(Continued on page 610)*

NUMBER KILLED OR DEAD FROM WOUNDS—300,000

Morons ARE NO MENACE

—with proper training and guidance, they can take care of themselves adequately

By DANIEL H. HARRIS

EVERY so often, some amateur in social welfare or some well-meaning journalist will throw a scare into us with dire warnings that mental incompetents are breeding too fast. Civilization, we are told, is in danger of being overwhelmed and culture is threatened with complete extinction, because the fertility of the feebleminded is unchecked while our best people have only eight tenths of a child apiece. Let us therefore sterilize all the feebleminded, goes the prescription, and save our society from destruction.

While it is clear from a single glance at the world today that there is great danger of our civilization being overwhelmed and all culture destroyed, not to mention humankind itself, it should be equally clear that the danger comes not from the stupidity of the feebleminded but rather from the hate and the greed and the lust for power of people whose mental capacities are quite adequate, even brilliant.

The feebleminded are in general no threat to anybody. They are just not bright. Mental deficiency is a lack, an absence of mental ability. To illustrate, it may help to think of intelligence in human beings as analogous to horsepower in automobiles. Just as automobiles can vary in horsepower from maybe one or two to hundreds, so people vary in their brain power, from the lowest idiot up to 32-cylinder intellects like Aristotle or Einstein.

The greater the horsepower of an automobile, the greater is its speed, pickup, and all-round road performance. Similarly, the greater the intelligence or brain power of people, the quicker is the mental pickup, the heavier the intellectual load that can be carried and the better the all-round mental performance.

In the statistical sense, both Einstein and the idiot are abnormal, since they are both far from the average, or normal, in intelligence. And yet in a more real sense, they are both normal so long as each functions as well and efficiently as his brain power will permit. Thus it is normal for the idiot not to be able to dress himself and not to have enough sense to come in out of the rain, and normal that a person of Einstein's rare ability will make great discoveries and accomplish astounding things. In the same way, the single cylinder buggy is behaving normally when it chugs noisily along at three miles an hour on the straightaway, even though it cannot make a 5 degree grade; and your car or mine is functioning normally when it rolls along at 40 on the level but has to go into second gear to make a long climb; and the 16-cylinder racer is functioning normally when it zooms up a mountainside at 60 with no strain at all.

These low brain power individuals, then, are abnormal only in the statistical sense of being relatively few in number and in being mentally slow and inefficient compared with the rest of us. They come in three grades. Lowest are the idiots, who are so defective in mental ability that they are unable to guard them-

selves against common physical dangers and must be watched like very young children. Their mentality is comparable to that of a child 2 years old or less. Then there are the imbeciles, who can guard themselves from common physical dangers but are incapable of learning to manage their own affairs or of earning their own living even under supervision. Mentally they are comparable to children between 3 and 7 years of age. Idiots and imbeciles are quite rare, they generally have certain physical defects which make them easy to recognize and are soon placed in institutions, out of harm's way.

The great majority of mental defectives are capable of taking care of themselves and earning a living under favorable circumstances, with supervision; but they cannot compete on equal terms with the average person. These people are called morons. No matter what their adult age may be, their mental functioning resembles that of children between 8 and 12 years of age. Aside from their mental deficiency—and that doesn't usually show on their faces—they are much like anybody else. We see them around us every day, mostly without our knowing it. There is nothing clearly distinctive about their appearance or the way they walk. They can talk just like anybody else, as long as the conversation doesn't get too complicated. These people—and there are somewhere between two and five million of them in this country and the same proportion in every other country—can get along quite all right if life itself doesn't get too complicated. They may learn to read and write a little, although they do not get very far in school. They can hold simple, useful jobs, they get married, they have children. If they can stay out of trouble they are usually good, quiet, law-abiding citizens; often even more law-abiding than others, because they are more generally content to live on a simple scale than smarter people would be.

But often they do get into trouble. Not being bright, they are easily led. If they get the proper sort of training and supervision when they are young and if social conditions in later life don't force too many new and sudden adjustments on them, all is well. But when they do not have the right training and environment, and if conditions of life are hard and unstable, then these simple-minded people drift easily into delinquency, crime, alcoholism and prostitution as the easiest way of meeting their problems.

But we cannot, on this account, blame crime and prostitution on the feebleminded. It has been abundantly proved that criminals as a group are not feebleminded. The gang leaders and "big shots" among criminals are quite the opposite of feebleminded. And it's fairly well agreed by those who should know that prostitution is much more often the result of poverty and social conditions than the natural result of mental deficiency.

What about the alleged threat to our progress that comes from the reproduction without check of the mentally defective? Let us look at the evidence for the claim that unless we sterilize everybody with a mental age of less than 12 as measured by our intelligence tests, our children will be overwhelmed by an avalanche of the mentally defective and civilization will decay.

The threat is largely imaginary. For one thing, there is no evidence that the mentally defective are reproducing themselves any faster than anybody else. If they were, we would now be finding among children of school age more mentally defective children than mentally gifted children. We find no such thing. And we do know that the mortality rate among feebleminded children is higher than the mortality rate among children in general. Moreover, the really hopeless defectives, idiots and imbeciles, are soon detected and segregated in institutions, where they do not reproduce.

It is also well to remember that feeblemindedness is no simple, inherited trait. Normal parents may have feebleminded children, and feebleminded parents may have normal children. Furthermore, mental defects may come not only from an inborn defect but also from other sources, in childhood or later life, such as head injuries, disease, the failure of certain glands to function properly or lack of the right kind of food. Such things do not affect the germ plasm, and such mental defectives should have perfectly normal children, just as a man who has lost one leg will still have two-legged children.

Let us recall also that under favorable conditions the average moron can and does get along quite all right, like the single cylinder car as long as the road isn't too hilly. And when the road of life becomes really rocky and muddy, it isn't just the one-cylinder mentalities that break down. The 16-cylinder brains also fail to meet the situation. If we're going to sterilize everybody whose mentality isn't capable of meeting every possible future situation in a very complicated and unpredictable world, how many of us will be finally exempt from sterilization?

There is little evidence that wholesale sterilization of morons is either necessary, desirable or feasible. The problem of the feebleminded is not how to get rid of them or how to prevent them from reproducing, but simply how best to fit them into the social *(Continued on page 623)*

CANNING CATASTROPHES

—AND HOW TO PREVENT THEM

"NINE beautiful quarts of fresh green beans!" Mrs. Jones sat at the telephone gloating to her sister, "coming out of the oven in five minutes now. My contribution to victory for one day. A lot of work too—I got up at six o'clock to do all that picking and stemming. Now I've nothing more to do but take my jars out and set them on the shelf. Isn't that wonderful? Yes, I screwed the caps down before they went into the oven. . . . The oven method? Sure, they say some of the best authorities endorse it. So easy, you know. . . . Just a minute, Helen. O, Janey! Janey! Go turn off the oven burner for mother, please. Hold on just a minute, Helen, while I take a look at my beans. . . ."

By JOCELYN WALLACE TYLER

Four minutes later, Mrs. Jones' voice came over the wire to her sister again—shaken, sobbing. "Helen, get in your car and come over here quick! And call Dr. Moore for Janey. Something terrible has happened!"

Something terrible, indeed—for as Mrs. Jones had opened her oven door to take a look at the product of her day's work, a violent explosion flung the door and oven racks outward and sprayed shattered glass, boiling water and beans over the woman and her 11 year old daughter. The kitchen was a shambles, and the deluxe model stove, less than a year old, was damaged beyond repair. Worst of all, little Janey, who had stood by to watch her mother after turning off the burner, was severely burned on the face and chest. Mrs. Jones herself, who had been partially protected from the explosion because she stood slightly to one side, was bleeding from ugly cuts about the face and neck. As the frightened mother rushed for the burn ointment in the bathroom medicine cabinet, her shoes crunched broken glass on the dining

Know the rules of safe canning if you want to be sure you won't be one of the thousands who will be injured in canning accidents at home in the coming season

room floor and even at the far edge of the living room rug, and she vaguely sensed that the gaping hole in the wide front window also stemmed from her canning catastrophe.

This is a true story. It happened during the busy canning season of 1943, when thousands of homemakers were working early and late to raise and preserve food against the war emergency. But the most depressing feature of the story is the fact that it is typical of a large number of violent canning accidents which occurred last summer—a number so large it attracted nationwide attention and set the National Safety Council hard on the trail of causes.

The thorough study which followed has brought safety engineers to the well founded conclusion that in home canning, as in industry and traffic, accidents don't happen—*they are caused*. If, for instance, you are fully informed on safe procedures for canning, you will be able to discover in the story above several errors, any one of which could have caused the catastrophe in Mrs. Jones' kitchen. If you did not detect these mistakes, then the recommendations of the National Safety Council for safe canning practices may save you grief, heart-breaking losses and doctor bills. Here are a few of those recommendations.

1. Do not use the oven canning method. It caused more than 80 per cent of the violent home canning accidents reported last year and proved to be particularly dangerous when used for canning beans, which require long processing. Difficult even for experienced canners and under normal conditions, it was especially hazardous last year because of wartime changes in equipment and the inexperience of many users.

2. Use standard glass containers free from flaws or chipped edges.

3. Follow latest (1944) directions from an authoritative source (such as the United States Department of Agriculture) for processing procedure. Also, learn 1944 instructions issued by the makers of your equipment. Have pressure canner gages checked for accuracy by state or local authorities or by a reliable commercial company.

Not more than 15 per cent of the canning accidents reported in 1943 occurred when steam pressure canners were used. Many of those which did occur, however, were caused by improper use of the release valve or petcock. In one case when a housewife opened the petcock immediately after processing, without waiting for the pressure to drop to zero, the sudden release of pressure in the cooker while there was still relatively high pressure in the jars, caused them all to explode. In another typical pressure canner accident, the homemaker was using a cooker with a rusty, inaccurate pressure gauge and a safety valve which had never been cleaned and did not operate. As a result, pressure climbed till it blew a hole in the side of the cooker. Practically every steam pressure canner accident, the safety engineers report, could have been prevented if a reliable cooker manufacturer's instructions for operation of his equipment had been followed.

4. Sterilize glass lids and jars and keep them hot until filled.

5. Use tongs (or similar gripping tool) to transfer hot jars and lids. When necessary to hold or grip a hot jar (as when tightening cap) cover it with a warm, dry cloth.

6. Pack jars according to directions—not too solidly—leaving head room of half an inch or more for expansion of foods and liquids.

Too tightly packed jars last year accounted for numerous accidents in the use of the boiling water bath method. Without sufficient head room in the jars, the contents expanded and explosions occurred while jars were being removed from the bath.

7. Place jars carefully on rack on bottom of canner, spacing them to permit circulation of steam or hot water around jars.

8. Keep jars from sudden chill. Steam should be completely dissipated before lifting canner cover, and when cover is lifted, it should be used as a shield between body and canner. Place hot jars on wood or linoleum surface out of drafts. Refrain from further handling except to tighten caps.

The caution to wait until steam is dissipated before lifting the cover results from the many accidents which happened when covers not equipped with safety valves were clamped down tightly, then opened while the pressure inside was still dangerously high. In some such cases, the housewives made the disastrous mistake of lifting the top away from the body, rather than toward it. One woman who neglected to so shield herself when lifting a tightly clamped canner cover was hospitalized for a month as a result of badly scalded arms, chest and face.

If American housewives equal last year's canning record in 1944, they will put up more than four billion cans or jars of food, according to U. S. Department of Agriculture figures. That is a proud record and a long step toward feeding the nation at a time when a nation well fed is a nation well armed. A few common sense precautions in our canning kitchens —instructions carefully read, a question asked here, a piece of equipment replaced or checked by authorities there—can eliminate a large percentage of the canning tragedies that besmirched the record in 1943.

RELEASE of TENSION

OCCUPATIONS that require long periods of desk work or other close work tend to keep your body tense. Efficiency is lowered if this tenseness is not relieved. These activities will help to relieve that tenseness and repair your efficiency. Many of them can be performed at your desk. Others may be used to advantage at home.

EXERCISES

1. *Progressive Relaxation.* Lie back downward on the ground or the floor. Extend both arms overhead and stretch completely throughout the body. Relax the entire body, beginning with the fingers and letting the feeling of freedom flow through the body to the toes. Repeat. This is a good exercise to use if you have difficulty going to sleep.

2. *Neck Release.* See pictures at right. Use any or all of the exercises under HEAD or SHOULDERS (December 1943 and January 1944 HYGEIA). Perform in a relaxed manner.

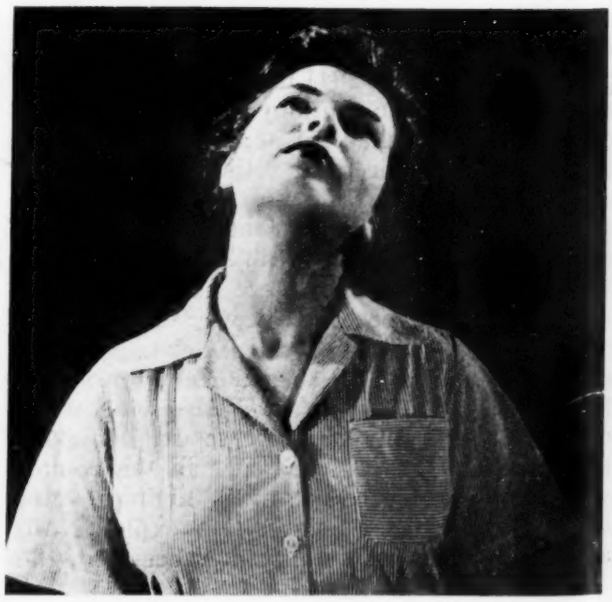
3. *Arm Fatigue.* Use any or all the exercises under ARM SWINGING or ARM FLINGING (December 1943 HYGEIA). Perform in a relaxed manner.

4. *Lower Back Fatigue.* Use any or all the exercises of the cadence series (December 1943 HYGEIA). Perform in a relaxed manner.

5. *Foot Relaxation.* See Foot Exercises (May 1944 HYGEIA).

6. *Whole Body Release.* Use any cadence series, preferably 1 or 2 (December 1943 HYGEIA). If variety is desired, a series may be made up by selecting any one exercise from each series. Thus, an individual may choose those exercises she likes to perform and originate her own series.

This is the tenth and last in a series of articles from the WAC Field Manual of Physical Training. Designed to condition women drawn from civilian life for the strenuous physical exertions of WAC service, the exercises presented here will help bring physical fitness to men and women in all walks of life. ***—The Editor.***



DON'T BE A JOSEPHINE JERK!

JOSEPHINE JERK is the limp number in every outfit who dives into her daily dozen with the crisp vitality of a damp mop. Her joints are all limber in the wrong places—her head, hands and hips dangle, her full dips resemble Pike's Peak, and she worships the body beautiful to such an extent that she always bends her knees.

Josephine isn't built like other women. Her body has a posture all its own. And while she can snap to it when the sergeant's eye is on her, bones and muscles fold up like an accordion when she's on her own.

Because Josephine's muscles and bones let her down, she counts on her girdle to hold her up. But when the going gets tough, usually after ten minutes of any activity, she leans heavily on the nearest broom.

Josephine never does anything in halves. When she lifts a weight, she throws in her body's weight for good measure and wonders why she just can't make it.

These pictures may seem funny. But too many Josephine Jerks hinder, rather than help, the war effort.

Don't be a Josephine Jerk.

When you exercise, do it vigorously and correctly.

Get the most out of each exercise.

Realize that planned exercise, properly done, develops your entire body evenly, with balanced strength and graceful posture as the result.

When you work, make your task easier by using your body properly.

Planned exercise shows you how.

Kaufmann & Fabry Photos

Doctors visiting the scientific exhibits at the AMA meeting are shown here watching a demonstration during one of the many special clinics presented

Doctors

By WILL O'NEIL

MORE than 7,000 of the nation's physicians were gone from their homes and practices one week last June. All over the country, the stay-at-homes did double duty on their colleagues' emergencies so the fortunate ones could spend the week in Chicago.

Chicago is a fine place to play, but the doctors had little time for amusement. For the first time in two decades the American Medical Association was meeting in its headquarters city to talk medicine for the benefit of the folks at home.

In 1943, because of the transportation difficulties and the desperate need for physicians in their home communities, the scientific assemblies were not held. But the practice of medicine is not a static thing, and a real need for the assemblies developed as new technics, drugs and information were uncovered during the two year span.

Perhaps you were one of those who couldn't get your own doctor when you wanted him that week in June. Maybe he was one of those who absorbed every room in Chicago's numerous hotels and spread out into the surrounding suburbs. You may have wondered what he was doing—going off for a week of conventioning when the armed forces have already drawn many of the physicians out of your community and are asking for more.

The AMA convention is actually a huge graduate school for physicians. Here come the teachers, the researchers, the specialists, the leaders of the profession to share their findings with the least of their profession in accordance with its ethics. There are no "trade secrets" among doctors—what one knows all may have.

Obviously, no one general practitioner—your family physician—can know what all the various specialists, teachers and researchers know. Nor is the great expert in a particular field near at hand when the man in a small community has a problem in that field. The convention, however, is the chance for the crossroads doctor to get the answer he wants. All he has to do is to walk up and ask. New scientific discoveries are displayed for his benefit in what are known as the scientific exhibits. These jammed every available foot of space in one hotel. The great exhibit hall of the largest hotel in the world was packed with the newest drugs, appliances and other products of the medical manufacturers.

But these are side shows for the main event —the scientific assemblies. In section meetings sitting in four of the Loop hotels, hundreds of men reported to their colleagues on their work and findings during the past two years. There were sixteen different sections, meeting morning and afternoon and each devoted to a medical specialty or group of allied specialties. A seventeenth section was devoted specifically to topics for general practitioners.

The papers delivered in these meetings, and in the general scientific sessions, covered every imaginable aspect of medicine. There were thirteen different papers on the subject of penicillin treatment of various diseases.

Cats and caffeine caught the attention of the section on pathology and physiology one morning. Two Northwestern University scientists, Drs. A. C. Ivy and A. J. Atkinson, reported that they had caused ulcers in cats by injecting caffeine, which is the "lift" producing substance in coffee, into the animals. The researchers said they hadn't gone to the extreme of producing ulcers in human beings, but they had found that caffeine produced a copious flow of gastric secretion high in acid and peptin content. They suggested that overuse of caffeine-containing beverages is unwise by those with ulcers or ulcer tendencies.

done with guinea pigs, and they intimated that it would be wiser to continue experiments on animals than on human beings.

On the positive side, doctors were busy telling each other of virtual medical miracles accomplished with penicillin. Among the reports on the new drug were these:

Col. Thomas B. Turner: The Army found that large enough doses of penicillin cured up to 98 per cent of gonorrhea cases that had failed to respond to the sulfonamides and even to fever. Three other Army doctors, in a separate report given by Lt. Col. Leander W. Riba, Capt. Carl J. Schmidlapp and Capt. N. L. Bosworth, agreed that 160,000 units of penicillin is an almost sure cure for sulfa-resistant gonorrhea cases.

Cmdr. G. J. Thompson: The Navy thinks so much of penicillin as a cure for gonorrhea that it is now prescribing the drug as standard treatment without waiting to find out if the sulfas will effect a cure.

A whole group of Army, Navy, U. S. Public Health Service and civilian physicians: The drug is proving almost as effective in the treatment of syphilis, on the basis of studies so far conducted.

Lt. Cmdr. G. B. Fauley, Lt. Cmdr. T. L. Duggan, Lt. C. C. Pfeiffer and Lt. (j.g.) R. T. Stor-

in Scientific Meetings

The same section heard from Drs. H. J. Corper and Maurice L. Cohn of Denver that diasone, recently given wide publicity as a "cure" for tuberculosis, may actually be dangerous to human beings. Apparently, they said, the drug retards tuberculosis by producing an oxygen deficiency. Their research was

mont: Research on dogs indicates that penicillin will be a life saver for those afflicted with peritonitis, or infection of the membrane lining the abdominal cavity. The infection usually occurs through the breaking of an inflamed appendix or as a complication of abdominal wounds. *(Continued on page 638)*

A lip-reading demonstration was featured in a special exhibit on rehabilitation

One of the exhibits on burns included a series of color photographs of burns

FOOD and DRUG *Detective*

By WALLACE WERBLE

Staff members say that working for the Food and Drug Administration is a way of life rather than a job—in FDA the public has had a "bargain in government"

FDA chemist determines the butter fat content of foods by testing samples in a food laboratory

THE DOOR of the Federal Food and Drug Administration is always open to any manufacturer who wants to know what he must do to obey the law. Rather than waiting to take court action after a product had been marketed, Walter G. Campbell, who retired a few months ago after a long, distinguished career as Food and Drug Commissioner, was never afraid to give advisory opinions to any one who requested them. These opinions have no legal force. Any manufacturer who disagrees with Food and Drug's advice can market his product as he sees fit and take his chances on convincing a court that the agency is wrong.

However, the open door policy has resulted in a high degree of compliance without expensive enforcement procedures. Notwithstanding the vast powers of this bureau, close cooperation between reputable members of the food, drug and cosmetic industries and the Administration is the rule rather than the exception. Even those who disagree with the agency's rulings admit that they always know where they stand and that all comers are treated on the same basis.

At one time Food and Drug began making wholesale seizures of Maine blueberries on the charge that they were infested with worms. Faced with financial ruin, blueberry farmers contended that it was impossible to separate wormy berries from good ones. However, Food and Drug's chief microanalyst at the time, Dr. Burton J. Howard, worked out a simple machine to do the job. He secured a public service patent and gave the idea to the Maine farmers, who have had no further enforcement trouble.

When a similar situation developed among the shellers of black walnuts, Food and Drug sent a trailer laboratory into the Tennessee mountains to teach a new method for pasteurizing wormy nuts.

But Food and Drug can crack down when it has to. Campbell never hesitated to hail what he calls the "minority fringe" before the judge, and he and his assistant, Dr. P. B. Dunbar, who has succeeded Campbell as commissioner, have been particularly anxious to get any one who tries to use the war as a basis

for a racket. Some of the Food and Drug's successful court attacks on wartime food rackets include:

An injunction which prevented a man from taking advantage of the wartime home canning program by distributing poisonous boric acid as a "preserving compound."

A fine of $2,100 against a man who tried to stretch his dwindling wartime supplies of cinnamon, nutmeg and pepper by the addition of 20 to 50 per cent of starch.

Seizure of Japanese crabmeat which an importer had relabeled with the statement: "Packed in Siberia, Soviet Russia."

A fine of $3,000 against a man who stamped the words "Imported Swiss" or "Made in Switzerland" on domestic cheese.

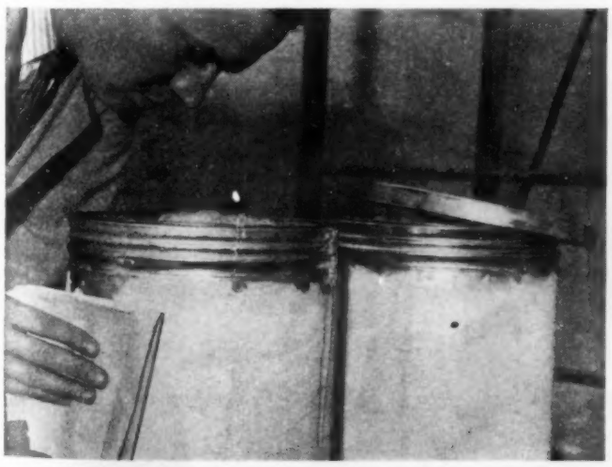
Huge seizures of an imitation fruit beverage which contained saccharin as a means of getting around the sugar rationing regulations.

The meanest of all wartime food rackets has been wiped out by Food and Drug actions, which resulted in $1,000 fines and jail sentences of four months against persons responsible for the shipment of half-empty "de Luxe candy gift packages" to service men. The racket was worked by having reputable retailers display attractive, well-filled samples as a basis for orders to be shipped direct from the factory. The packages received by service men contained more paper than candy.

Although the primary function of the Food and Drug Administration is to protect the consumer's health and pocketbook, it also serves to protect the honest manufacturer by preventing unfair competition from the man who is willing to cut corners.

Weighing packaged butter to make certain the consumer gets full measure is an FDA responsibility

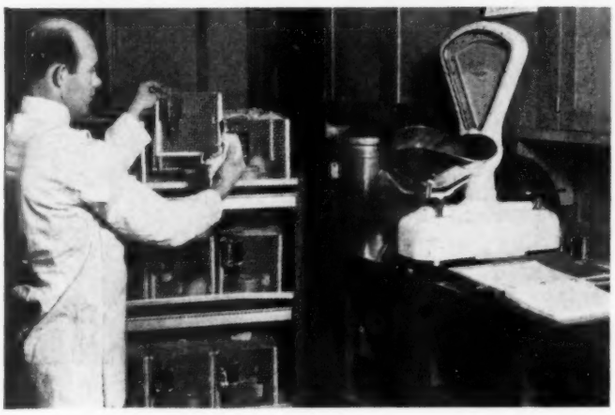
FDA inspector punches a hole in the sack to get a sample of imported cocoa beans for testing



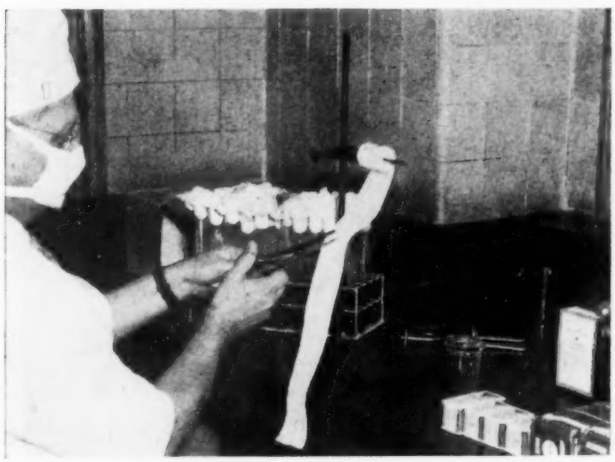
Frozen egg cans are opened for inspection, and samples are removed for tests by FDA chemists

Extensive laboratory equipment is needed for determining exact protein content of foods

FDA inspector conducts an "on the spot" investigation of condition of imported Brazil nuts



Experimental animals are kept in FDA laboratory to aid in the determination of vitamin contents



Packages of surgical supplies and dressings are opened and samples cut for testing sterilization

Probably Campbell's greatest achievement was his fight for new legislation to replace the original Pure Food and Drug law of 1906. After a five year battle, Congress enacted the 1938 Food, Drug and Cosmetic Act strengthening federal control over foods and drugs and adding new controls over cosmetics. Under the new law, a food, drug, cosmetic or therapeutic device is misbranded if its labeling contains any statement or picture which is false or misleading in any particular. The law backs up this sweeping power by further providing that a label must tell not only the truth but also the whole truth and nothing but the truth.

Strictly speaking, FDA's jurisdiction is limited to the content of the product and the accuracy of the labeling or circular accompanying the product. Congress has vested jurisdiction over the accuracy of advertising claims made for foods, drugs, or cosmetics in the Federal Trade Commission, which also had its powers expanded in 1938.

However, the line of demarcation between a statement made in the labeling of a product or a claim made in advertising the product is so dim that the two agencies sometimes find themselves covering the same ground. In the last public speech before his retirement, Campbell pointed out that dual jurisdiction of this kind does not represent good government.

A food is adulterated if it contains any poisonous, deleterious, filthy, putrid or decomposed substances; if it has been prepared or held in an insanitary plant or warehouse; if any valuable substance has been omitted or abstracted, or any sub- *(Continued on page 636)*

The equipment shown here is a colorimeter—in this instance used to show the presence of lead

One Deodorant keeps you SAFE 3 WAYS

1 SAFE from OFFENDING!

Perspiration is checked 1 to 3 days by Nonspi's gentle, astringent action...you stay tub-fresh and dainty wherever you go! Nonspi is a crystal-clear liquid that *acts instantly—dries quickly.*

2 SAFE from SKIN IRRITATION!

Highest medical authorities pronounce Nonspi non-injurious when used according to directions. Use it regularly, whenever you need it!

3 SAFE from CLOTHES DAMAGE!

Better Fabrics Testing Bureau says: "Analysis of Nonspi and applied tests of its use has been completed by the Bureau. No damage can be done to the textile if the user follows your instructions."

NONSPI

35¢ & 60¢
(Plus Tax)

PROTECT WITH NONSPI...THE SKIN-SAFE, FABRIC-SAFE DEODORANT AND ANTI-PERSPIRANT

Some mistaken beliefs about

Cancer

Misbelief #1 . . . THAT CANCER IS A HOPELESS DISEASE

Far from it! Many more are being cured now than ever before. This is the result of greatly increased knowledge and skill among doctors . . . of better facilities for diagnosis and treatment . . . of early recognition and treatment.

Misbelief #2 . . . THAT ALL LUMPS AND GROWTHS ARE CANCERS

This is not true. The symptoms that *may* indicate cancer are often due to other causes. A leading cancer clinic reports that, of the women examined for suspected cancer, only 11½% had it. *All* of these women received immediate attention and avoided needless worry.

Misbelief #3 . . . THAT CANCER CAN BE CURED WITH MEDICINE

It cannot! *The only known methods of treating cancer effectively are X-rays, Radium, and Surgery,* alone or in combination. These methods are successfully treating cases which, not many years ago, would have been judged hopeless. Getting to the doctor early is *important.*

Misbelief #4 . . . THAT CANCER STRIKES WITHOUT WARNING

Cancer *does* give warning! Everyone over the age of 30 should know these common signs of cancer:

- Any unusual lump or thickening, especially in the breast.
- Any irregular or unexplained bleeding.
- Any sore that does not heal, particularly about the mouth, tongue, or lips.
- Loss of appetite, or persistent, unexplained indigestion.
- Noticeable changes in the form, size, or color of a mole or wart.
- Any persistent change from the normal habits of elimination.

Send for Metropolitan's free booklet, "A Message of Hope About Cancer."

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Postwar Homes

(Continued from page 583)

greatly influence the future development of electrical home equipment.

We have recently begun to use many new kinds of building materials—particularly plastics. Homes have been prefabricated as a wartime device for accommodating people rushed to war plant areas.

When I visited the Tennessee Valley Authority recently, I saw many prefabricated houses. They were first put up for workmen at the site of a new dam. The construction work there took about two years, after which the houses were moved to the present location.

"Just look at those houses," said members of the party. "You wouldn't believe it, but they are more than three years old. The larger ones have five rooms with bath, and after the war similar homes can be built to retail for $2,000 or $3,000."

The houses were not all alike, either. They were so designed that they could be put together in various patterns, giving the impression of a modern village street.

If prefabrication should solve the housing problem for middle and low income families after the war, it would be possible for manufacturers to cast a whole kitchen at once—just as automobile bodies are made. There, in one piece, you would have the electric range, refrigerator, sink—perhaps even an automatic washer and ironer. Much of this equipment might be run by a single motor and certainly the whole kitchen could be installed in a few hours.

These are really only samples of what the postwar home may be like. There will be improved irons, completely automatic washers, better ways of cooking electrically, new types of electric cleaners and probably new gadgets by the hundreds. One inventor has patented a meat cooker which operates at 1,200 degrees and cooks steaks in thirty to sixty seconds. He claims that meat cooked in this fashion retains all the juices and is tender because of separation of the fibers.

In engineering circles, it has been known for some time that the technical development of television radio sets had reached a point where commercial production was practical. Costs were high, however, and existing programs didn't encourage mass buying, even in the New York areas in which they were introduced. Now one of the largest electrical firms is taking orders for postwar delivery of television broadcasting sets and expects to

make television receivers available. Already several large cities throughout the country are making plans for television broadcasting, and there is a projected network between New York City and Schenectady. Technically, it will be possible for us to enjoy fine grain, full color pictures on an 18 inch screen after the war.

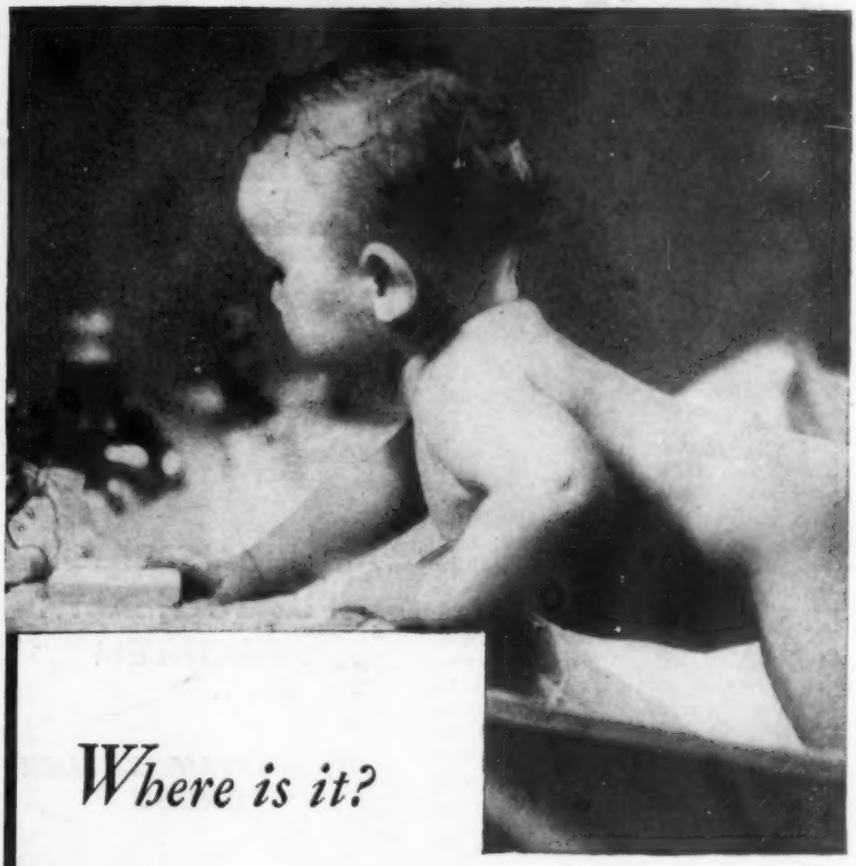
Frequency modulation radios—with clearer tone and freedom from static—are also definitely coming for broad postwar distribution. It is believed that F-M radio sets and television sets can be sold after the war at reasonable prices.

Functional specifications have been prepared by the Rural Electrification Administration for a small electric mill to grind fresh flour and cereal from whole grain on the kitchen table. One manufacturer has designed such a mill about the size of a food mixer and weighing 25 pounds. It will grind from 20 to 40 pounds of flour an hour and is operated by a half horsepower electric motor.

Another "future" is for an electrical dust catcher that would automatically draw all dust in a room to concealed wires, which might follow the baseboard. Many other new electrical developments are in store for the future, and we can be certain that electric power will play a bigger part in our lives than it has ever played before.

The war emergency has brought several high-producing electric generating plants into operation, and when peace comes, huge quantities of power needed for making aluminum, manufacturing airplanes and building ships may be released for other purposes. There may be an actual surplus of power for a time after the war, but only temporarily. After all, if there is an abundance of power, we will all use more of it. We will think in terms of plenty instead of scarcity. After the war, the great public power dams from TVA and Grand River to Grand Coulee and Bonneville may be turned to providing cheap power for general use and for manufacturing more of the equipment we are going to want for our farms and homes.

The market for this power should be unlimited. Already more than 40 per cent of the nation's farms are electrified, and we foresee electrification of another 5,000,000 rural dwelling units within a few years after the war's end. Even the remotest farm wife may soon be able to enjoy the benefits of air conditioning and fluorescent lighting, while her husband does his chores electrically—just as so much industrial work is done in the cities.



Where is it?

I'm looking for the 'Borofax.' Mother always keeps it handy to help protect my skin against chafing and irritation.

'Borofax' Borated Ointment is an invaluable aid in helping to protect baby's tender skin. This protective, water-resistant ointment helps to counteract excessive drying of the skin and is often prescribed to relieve irritation caused by wet diapers. Apply after every change of diaper and following baby's daily bath.

'Borofax' Borated Ointment contains 10% boric acid in a bland ointment base. Available at all drug stores in tubes of 1¼ oz. 50¢.

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9-11 EAST FORTY-FIRST STREET, NEW YORK 17, N. Y.

THE FOOD WE EAT

AMERICA'S BIGGEST PUBLIC HEALTH PROBLEM

By MIRIAM ZELLER GROSS

"DID you see the boy and girl who left my office just as you came in?" my dentist asked.

I had seen them. A tall, lanky, teen-age boy with a small, frail, frightened looking girl holding tightly to one of his hands.

"It's youngsters like Jack and Mary that keep me awake nights," the dentist said. "And the worst of it is that there is so little I can do for them. Concentrate on one or two teeth apiece for each and hope to save those. Even if it were possible for me to give those children an hour or two each every day for the next few months, it is too late to save most of their teeth. Another case of too few vitamins and minerals until too late."

The children's parents, it seems, had lived pretty much of a hand to mouth existence in the small Pennsylvania town from which they had come and where the children had lived most of their lives. Now the father has a good job. There is money to spend, and the mother has brought Jack and Mary "to have their teeth fixed up" with the mistaken but far too often held fond hope that money in the family exchequer will make up for all previous deficiencies.

The happy side of the picture is that the dentist has talked with the mother about nutrition and has had her write down a list of the foods eaten by the children for a period of two weeks. He has pointed out to her what dietary changes are necessary and why. The mother is tearfully interested. Better yet, she is cooperative, and, as a result, Mary's small sister will undoubtedly enjoy better teeth and general health.

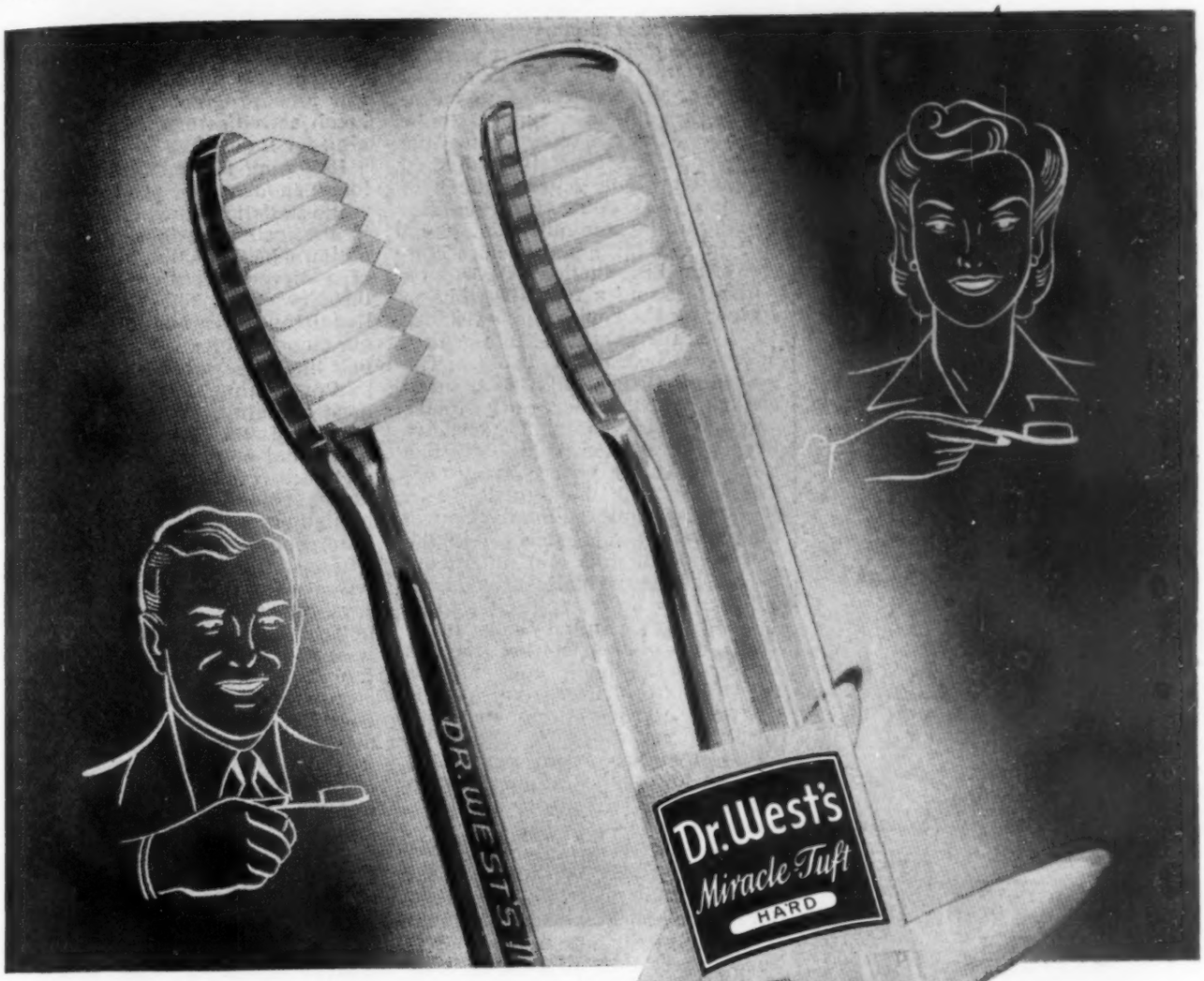
Scientists composing the Council on Foods and Nutrition of the American Medical Association indicate in their various reports that Jack and Mary's or similar nutrition problems must be multiplied several hundred thousand times to express adequately the full extent of our national problem of malnutrition.

Dr. W. H. Sebrell, one of the council members, recently said that "the prevention of malnutrition and deficiency diseases is probably the greatest and most complex problem in public health that this country has ever had." Dr. Sebrell, who is a senior surgeon of the United States Public Health Service and Chief of the Division of Chemotherapy of the National Institute of Health, knows whereof he speaks, as he is in a position to review and evaluate the various health problems of wartime America.

He mentions, for example, that when the diets of over a thousand workers in a large aircraft factory were studied, the diets of more than four fifths were found to lack important food essentials. He also relates that nutritionists checking lunches purchased by workers in cafeteria lines reported that not more than half eat well balanced meals, even though the factory cafeterias have prepared the proper foods and placed them on the counters in front of the workers. Women were found to be more careless than men in selecting their food. Sebrell feels the problem of malnutrition to be particularly pertinent because of its effect on the efficiency of war workers and points out the importance of every one's having enough to eat so that the war may be fought with the greatest efficiency.

Few of us are astonished to learn that night blindness, xerophthalmia and other conditions brought about by vitamin A deficiency are reported in Egypt and Uganda. We rather expect such things to occur in far away places, even though vitamin A-containing foods are probably among those most easily obtained throughout the world. But few realize how important a wartime problem inadequate diets constitute right in our own United States, despite the fact that America is the "food storehouse of the democracies." For example, 86 per cent of poor school children studied in New York City were found to be suffering from vitamin A deficiency. High percentages of children observed in Tennessee and Iowa showed similar deficiencies. Vitamin B deficiency occurred in about 5 per cent of New York children from well to do homes and in nearly 76 per cent of those from low income homes in a group of about 1,000 children studied. Better than one person in four of 200 admitted consecutively to the medical wards of a New Orleans hospital suffered from vitamin B deficiency, and 75 to more than 97 per cent of the children living in certain areas of this country have been found to be suffering from rickets because of vitamin D deprivation.

Plenty of statistics demonstrate that in terms of dietary sufficiency there has never been enough to eat, even in the United States. It is pointed out that our so-called overproductions and surpluses of potatoes, tomatoes, oranges, grains and other foods of which we read from time to time are not actual surpluses but rather failures to make proper distribution of the food produced. While poverty is the main cause of malnutrition, general economic improvement alone cannot insure adequate diets. Faulty diets are caused also by faulty food distribution, ignorance of the rules of



"As indispensable as a toothbrush"

And physicians agree this familiar saying is pretty apt—They know tooth care prevents many ailments.

To physicians and others whose leadership in health education is today more important than ever before, the Dr. West's Miracle-Tuft Toothbrush is recommended as the supreme cleansing instrument. It offers the exclusive efficiency of "EXTON" brand bristling, the extra health-guard of a germ-proof sealed glass package and the genuine economy of a *full year* of effective service.

DR. WEST'S ***Miracle-Tuft Toothbrush*** is scientifically constructed to specifications of periodontal experts. It cleanses tooth surfaces completely and safely, averts decay which may lead to neuritis, arthritis and other maladies.

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Dr. West's
Miracle-Tuft
The only brush with "EXTON" brand bristling

Baby-All
NATURAL NURSER

Germ Free

Mothers—no more pushing and pulling a nipple over baby's bottle.

In Baby-All Natural Nurser you have a set that includes a screw-on, no-colic Nipple, Bottle, and Cap. Screwing the one-piece "Baby-All" nipple on tightly is but a second's work. No spilling. And no need to contaminate the nipple by forcing it or by needless handling. Baby can't pull this nipple off.

The cap seals formula safely in refrigerator or while traveling.

PYREX or plain glass bottle
The whole set sold at all Infant Departments and Drug Stores.
SANIT-ALL PRODUCTS CORP.
Greenwich, Ohio

No Colic SCREW-ON BOTTLE-NIPPLE-CAP

good diet, bad dietary habits and indifference to the consequences.

Steps are being taken to correct our over-all picture. But meanwhile Great Britain appears to be ahead of us in conquering the menace of inadequately nourished people on whom depends much of the job of keeping war supplies moving to the men out front. Great Britain has developed a close control of food production, importation and prices and a food distribution system planned with the assistance of food experts attuned to a goal of adequacy instead of profit. The average Britisher today is assured enough of the necessary foods, and the country's infant mortality figures have reached an all time low, despite the poorer living conditions brought about by the war. Health is being maintained at a high level, with a decrease in the general death rate, and nutritional diseases have virtually been eliminated.

Here in the United States home economists and agriculture teachers in our high schools and colleges, the Agricultural Extension Service, the American Red Cross, the Children's Bureau of the Department of Labor and other organizations have produced tangible results. Without their activities our problem would be far greater than it is now. But, as Sebrell says, our nutrition problem is exceedingly complex, as it involves the control of crop production, farm machinery and manpower, the distribution, transportation, preservation, processing, storage and preparation of foods, as well as education in nutrition and the diagnosis, prevention and treatment of deficiency diseases. The first essential is careful planning and interaction among the many agencies working with physicians and health officers.

A start has been made through the National Nutrition Program, based on recommendations made by the First National Nutritional Conference called by President Roosevelt in May 1941. The program operates through the Nutrition and Food Conservation Branch of the War Food Administration. Regional nutritionists conduct the activities from Food Distribution Administration regional offices and, on invitation, work with state and local nutrition committees in planning and developing nutrition programs and projects. Nutrition committees have been formed in every state and in Hawaii. Committee activities consist mainly in organizing nutrition classes, preparing and distributing educational materials, holding food demonstrations and encouraging victory gardens and home food preservation, and it is expected that they will play an even more important role in our war food programs through school lunch activities and nutrition planning for industry.

Rationing has not been in effect long enough to produce worth while statistics showing what effect, if any, rationing is having on the nation's health. But, if the results of a survey recently conducted by the New York Times indicate national trends, rationing is changing our food habits. More than one half the housewives questioned said that rationing has altered their meal planning. A large percentage expressed the belief that better meals and more carefully balanced diets are resulting. Mrs. Roger W. Straus, commissioner of the metropolitan area for the New York Emergency Food Commission, whose staff has aided 115,000 housewives during the last six months, says that the principal changes noted are the lessened use of sugar, with cookies and sweet breads taking the place of heavily frosted cakes, and the greater use of cheaper and little known cuts of meat. The greatly increased use of fish which it was hoped would result from rationing has not materialized so far, according to the survey, probably because of the high prices of fish in the metropolitan area.

Dr. Tom D. Spies of Cincinnati, internationally recognized for his studies of deficiency diseases, recently discussed the processes whereby food deprivations bring about disease. "Every living cell in the body requires specific nutrients," says Dr. Spies. "Accordingly, they must be supplied if the body is to function normally." He goes on to explain that when certain cells are denied the proper foods, other cells come to their rescue and try to balance body requirements. For example, if you climb a mountain or undergo other great physical exertion, certain cells demand far more nourishment than usual. The same thing is true if you have typhoid fever or some other illness or condition which makes unusual demands. Under such circumstances, certain cells and tissues will be sustained at the expense of others. This is your body's effort to keep its nutritional balance and keep "out of the red," so to speak, nutritionally. Some cells borrow at the bank of body reserves to tide over an acute emergency. If the emergency passes and a surplus can be built up to return the borrowed funds, all is well and good and the body maintains its normal equilibrium. But if body reserves are

constantly called on to make up deficits because of nutritional deficiencies, your body has an increasingly difficult time maintaining its equilibrium. In business, when too many borrowing trips are made to the bank without paying back what has already been borrowed, credit becomes exhausted. This occurs also in the case of your body reserves, and when you demand too much of them without rebuilding their nutritional defenses you are well on the way toward a dietary deficiency disease. Chronic alcoholics offer a striking example of this in that a heavy percentage of them suffer from vitamin B deficiency—not brought on by the alcohol but through lack of adequate food.

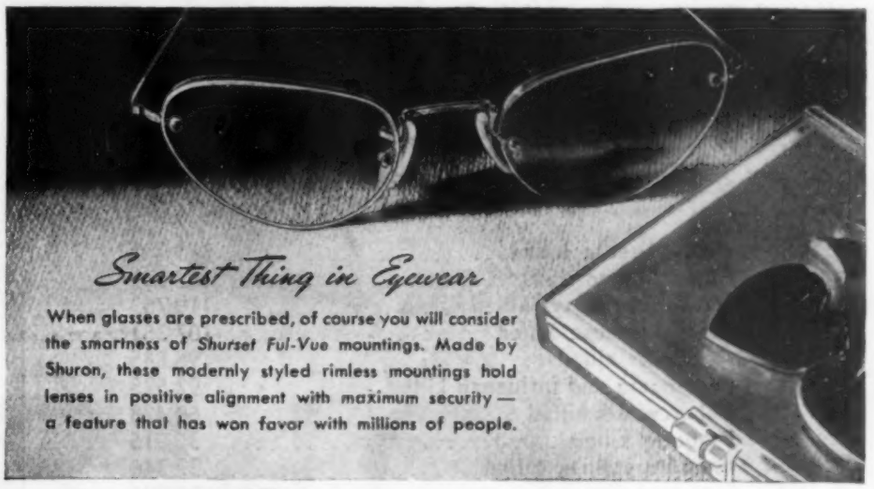
A "biochemical lesion" arises, says Dr. Spies, when the cells are deprived of the food they need. If this continues for any length of time, symptoms appear in various parts of the body.

One of the reasons we Americans do not get more concerned about our nutrition problem is that it does not appear to play an important role in our obituary notices. On the other hand, a careful delineation of our own and neighbor's food fancies and faults would undoubtedly offer some embarrassing and startling explanations as to our states of health. For example, Dr. Spies mentions borderline indications of disease which may be brought about by dietary deficiencies, such as: weakness, unexplained weariness, lack of interest in food, failure to concentrate, sore mouth or tongue, constipation or diarrhea, nervousness or irritability, various skin sensations, night blindness, burning and itching of the eyes, general pains in the muscles or joints and various other disturbances which we usually consider annoying but dismiss as being just annoyances with which we must live.

Fortunately for careless and ignorant mankind, nature is kind and relenting. Dietary changes, if made in time, usually stop the havoc caused by dietary indiscretions; one physician reports that 5,000 patients with serious deficiency diseases recovered after necessary hospitalization, treatment and changes in food habits.

Dr. Spies says that many people with liberal incomes fail to eat properly. Others whose incomes appear too low to provide good diets manage to get what they need by careful budgeting and wise selection of food. The minimum cost of adequate food to feed a family of five living in the vicinity of Cincinnati, he reports, is $8.60 a week.

She is waiting and wondering. Waiting for an eye examination—perhaps her first. *Wondering* how she will look in modern glasses—if prescribed. But it is more important that she consider the relation between good vision and good health. That is why she is placing full confidence in the man she is waiting to see—the man who has spent years in the study and practice of his profession—the man who knows how to provide maximum visual comfort.



Shuron
SMART EYEWEAR

Involuntary Suicide

(*Continued from page 591*)

lation of that year, supplies just what its title implies. It is a mine of vital and sometimes curious information. For example, it will tell you that by and large January and February are the most fatal months of the year, August the safest. But the bulk of its information, properly interpreted, is far more serious and challenging than that. Almost every line of it asks *why*. *Why* are people dying unnecessarily?

If I were attending a conference of governors of the New England states—and governors' conferences are now the fashion—I think I would place high on the agenda this question, revealed in the "Mortality Summary": Why do the New England States, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut, have the highest total death rate and the highest rural death rate in the country? And if I were living in any of these states I would certainly press the governors for an answer.

One of the things that the governor of South Carolina might say to the governor of North Carolina might well be: "Why do we rank among the ten states with the highest infant death rates?" And the same question would apply to the governors of Virginia, Georgia, Alabama, Louisiana, Texas, New Mexico, Arizona and Colorado. In the case of the last four named, the question might be most appropriately asked by the Mexican Ambassador, for the "Mortality Summary" indicates that the high infant death rates here are probably due to the excessive number of deaths in their relatively large Mexican populations.

The mayors of cities with 10,000 or more people located in the four west south central states, Arkansas, Oklahoma, Louisiana and Texas, may well inquire why the highest mortality among preschool children, ages 1 to 4, is to be found under their jurisdiction. Perhaps a joint congressional committee should be appointed to inquire why, of all metropolitan areas in America, the highest death rate among school children is to be discovered in the city of Washington, D. C.

That tuberculosis—except for accidents—is the leading cause of death among young people between the ages of 15 and 25 has long been known, but will the editor of any Maryland newspaper undertake to tell why the death rate from tuberculosis among the youth of that state is higher than any other state, Arizona with its sanatoriums excepted? And will some country weekly editor in Kentucky or Tennessee find out why the rural death rate from tuberculosis is highest in these states?

Heart disease in the prime of life, in those wonderfully productive years between 25 and 45, killed over 23,000 men and women in that age group in 1940 and repeats or betters that performance every year, the "Mortality Summary" shows. In New York State alone approximately 3,000 die annually, many unnecessarily. Here the problem touches home most intimately. I am a resident of New York, I fall into the 25 to 45 age bracket, and I want to know why. Indeed it is much in the spirit of that inquiry that I have studied the "Mortality Summary" and broached this discussion.

I would be equally interested in the question, and not anxious to brush it off on some public official, if I were living in any one of ten other states where heart disease is a principal cause of death among young adults; namely, New Jersey, Pennsylvania, Illinois, Maryland, South Carolina, Georgia, Florida, Alabama, Louisiana, Utah (and the District of Columbia). I would be still more interested in the problem of heart disease, and my chances of committing involuntary suicide by way of it, if I were over 45. For my chances of dying of heart disease are eight times greater by the time I reach 45 and fifty times greater when I cross the 65 year mark.

The Lord willing, I shall reach my three-score years and ten. I do not expect to commit involuntary suicide by way of heart disease, for the simple reason that my own study of the "Mortality Summary" persuades me to a hygienic way of life; briefly, to live within my cardiac reserve, to eat sensibly, rest sufficiently, search out equanimity and avoid worry as much as possible. Nor do I expect to fall early and unwilling prey to any other of the ten principal causes of death listed in the "Mortality Summary" in order of importance as chief killers of Americans; namely, cancer, stroke, kidney disease, accident, pneumonia or influenza, tuberculosis, diabetes, syphilis and suicide. Forewarned is forearmed. I shall not be killed by the same tragic, indifferent ignorance that will carry off a quarter of a million of my fellow Americans in this year of our war.

Forewarned as to what to expect in the way of health hazards at each period of life, any one can draw up his own simple rules of longevity. Besides those of my own noted above, they may include a resolution to seek competent medical advice whenever unexplained, trivial signs and symptoms of disease persist, and a habit of being checked up by a physician at periodic intervals. The value of acquaintance with the facts in the "Mortality Summary" is that they will convince you to follow your own rules consistently, day in and day out. Let us examine the gist of the forewarnings there given for the "seven ages of man."

Infants, under 1 year old, run their greatest risk of death on their first day of life. Up to the end of the first month the principal causes of death are premature birth, con-

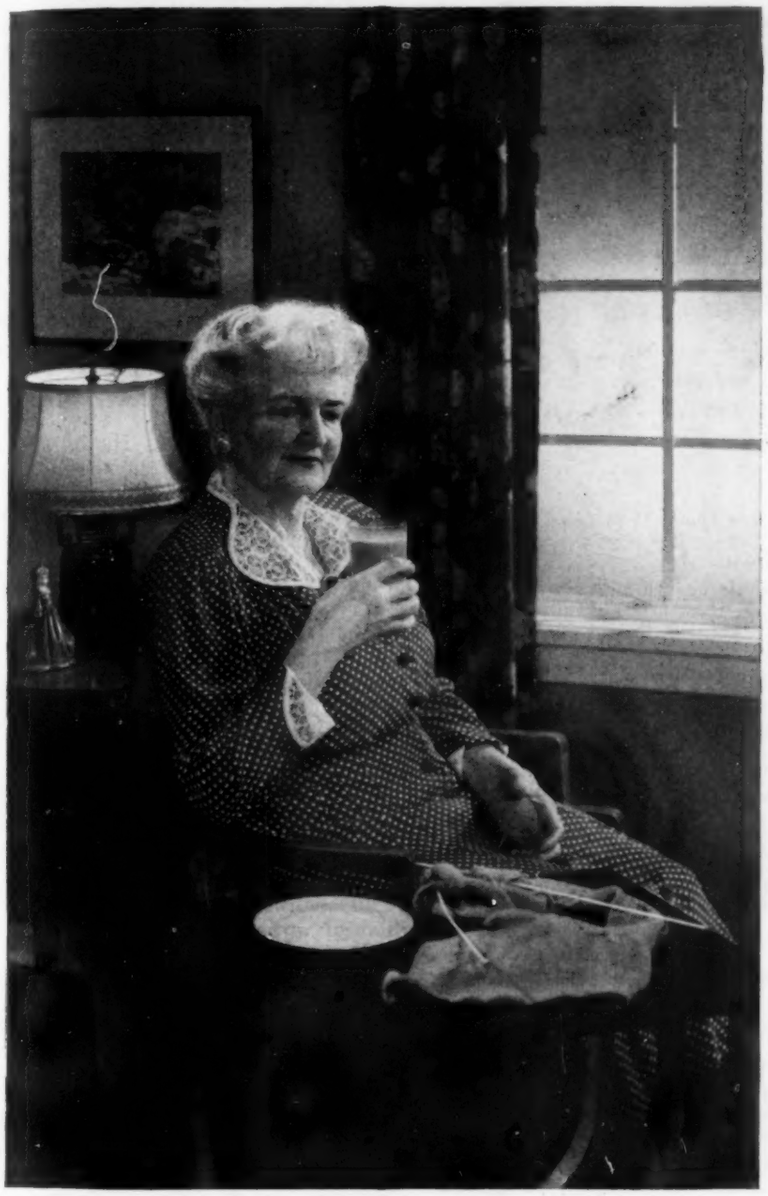
CHIEF KILLERS OF AMERICANS

The Eleven Principal Causes of Death in the United States, 1940

Heart disease killed	385,191
Cancer killed	158,335
Stroke (apoplexy) killed	119,753
Kidney disease killed	107,351
Accidents killed	96,885
Pneumonia and influenza killed	92,525
Tuberculosis killed	60,428
Diabetes killed	35,015
Premature birth killed	32,346
Syphilis killed	19,006
Suicide killed	18,907

Their NUTRITIONAL and FLUID Needs... —BOTH must be supplied

"Dehydration is a very common finding in the general medical examination of elderly patients. . .



"Administration of abundant fluids is advisable except where kidney disease, cardiac decompensation or other forms of circulatory embarrassment are specific contraindications."*

A simple routine is to supplement the diet with between-meals' feedings of

HORLICK'S

Prepared from man's most staple foods—full cream milk, wheat and barley—Horlick's is rich in basic food quality, and has a low curd tension, which means that it is readily digested.

Horlick's is delicious whether prepared with milk or with water.

OBTAINABLE AT ALL DRUG STORES

*Palmer, H. D.: The Journal-Lancet, 64: 192-199 (June) 1944.

HORLICK'S

The *Complete* Malted Milk—Not Just a Flavoring for Milk

genital malformations, syphilis contracted from an untreated mother and birth injuries. The obvious means of preventing these deaths are (1) adequate prenatal care, (2) prevention and treatment of syphilis among young adults and (3) higher obstetric standards. The responsibility for preventing these deaths falls (1) on expectant mothers themselves, (2) on public health and police authorities and (3) on the medical profession. After the first month of life, diseases brought on the infant by his environment assume first rank; namely, influenza and pneumonia, diarrhea and enteritis. The sanitarian, by controlling milk, water and pure food supplies, has taken tremendous strides in eliminating the gastrointestinal ailments. The organic chemists, who produced the sulfa drugs and penicillin, and the clinicians, both pediatrician and family physician, who administer them on proper indications, are on the way to reducing the death toll from respiratory ailments. In 1940, Norway, Sweden, the Netherlands, Australia, New Zealand and Switzerland had infant death rates lower than the United States record of 47 infant deaths per 1,000 live births.

Among preschool children, ages 1 to 4, the leading causes of death in 1940 were influenza and pneumonia; motor vehicle and other accidents about the home; diarrhea and enteritis; tuberculosis; congenital malformations; whooping cough; diphtheria; diseases of the eye, ear, nose and throat; and appendicitis. Responsibility for preventing deaths in this age bracket falls most squarely on parents, who must teach children to deal safely with fire, water, poisons and moving vehicles. Immunization against whooping cough and diphtheria are available. One doctor, Arthur Hertzler, has said: "The parents of any child who dies of diphtheria should be indicted for murder." Tuberculous contacts should be rigidly excluded from the household; too often, it is discovered too late that grandfather's hacking cough was really tuberculous. The most pressing health question that the average mother must decide is, "When is Johnny's pain or Susie's fever really serious enough to warrant calling the doctor?" A fever thermometer is a wise investment.

School children between the ages of 5 and 15 are on the whole healthy animals. The over-all death rate is lowest in this age group, only one in a thousand being likely to die. Over half the deaths are attributable to accidents, pneumonia and influenza, heart disease and appendicitis. The chief responsibility here lies with school teachers and administrators to develop safety education; to send home to rest the constantly sniffling child whose untreated, recurrent common cold may be the precursor of fatal pneumonia or influenza; to insist on adequate facilities, now available only in a few large cities, for the care of the child with rheumatic heart disease, which will bring death at a later age; and to preach the easy lesson, "If you have a pain in your abdomen lasting more than an hour, don't take a laxative, call a doctor!"

The last statement is all a layman ever need know to keep from committing involuntary suicide by way of appendicitis. Over ten years ago, in three fortunate American communities, Philadelphia, Atlanta and Cincinnati, this brief message was widely disseminated—by newspaper, magazine, radio, school lecture, envelope sticker, drugstore poster and other effective health propaganda technic. Public education aimed at earlier diagnosis was reinforced by professional education, organized by and among doctors to supply further information concerning the not-too-easy diagnosis of appendicitis and its appropriate treatment. Health education alone reduced the death toll from involuntary suicide by way of appendicitis to approximately half its former rate. Literally thousands of Philadelphians, Atlantans and Cincinnatians are now alive to add their manpower to the war effort simply because alert and forward-looking physicians took the trouble to educate their communities. The results are there for all to see; clearly recorded in the truly vital statistics of each community. But the lesson has not been learned by the nation as a whole. As the late Dr. Mont Reid wrote in 1939: "The mortality from appendicitis is a national disgrace." In 1940, 12,999 persons in the United States died of appendicitis—at least half of them unnecessarily. Would this appalling daily disaster ring home more sharply if you picked up tomorrow's newspaper to see the headline: "Forty Killed by Appendicitis Yesterday: Half Involuntary Suicides"?

Among the youth of the nation, 15 to 25 years of age, appendicitis remains a serious and tragic killer. However, as the "Mortality Summary" shows, the five principal causes of death are accidents, tuberculosis, heart disease, diseases of pregnancy, and pneumonia and influenza. Possibilities of prevention are large. Every community, every school, every industrial organization has it within its economic power to provide chest x-rays for tuberculosis case finding on a mass scale. At least half the involuntary suicides by way of

DEATHS IN EACH OF THE "SEVEN AGES OF MAN"

Number of Deaths in Each Age Group in the United States in 1940

The Infant (Under 1 Year)	
Premature birth	32,346
Influenza and pneumonia	17,577
Congenital malformations	11,038
Injury at birth	10,506
Diarrhea, enteritis, etc.	8,222
The Preschool Child (1-4 Years)	
Influenza and pneumonia	5,328
Diarrhea, enteritis, etc.	2,572
Motor vehicle accidents	1,056
Tuberculosis	1,047
Congenital malformations	880
The School Child (5-14 years)	
Motor vehicle accidents	2,584
Influenza and pneumonia	2,021
Heart diseases	1,792
Appendicitis	1,789
Tuberculosis	1,244
The Youth (15 to 24 years)	
Tuberculosis	9,127
Motor vehicle accidents	6,846
Heart diseases	3,340
Childbirth and pregnancy	2,914
Influenza and pneumonia	2,744
The Adult (25-44 years)	
Heart diseases	23,142
Tuberculosis	22,904
Cancer	14,894
Motor vehicle accidents	9,362
Influenza and pneumonia	8,898
The Middle Aged (45 to 64 years)	
Heart diseases	118,789
Cancer	65,251
Stroke (apoplexy)	34,769
Kidney disease (nephritis)	30,102
Influenza and pneumonia	18,478
The Aged (over 65 years)	
Heart diseases	237,114
Stroke (apoplexy)	78,752
Cancer	75,607
Kidney disease (nephritis)	66,566
Influenza and pneumonia	37,354

Germs die young in Army dishpans!

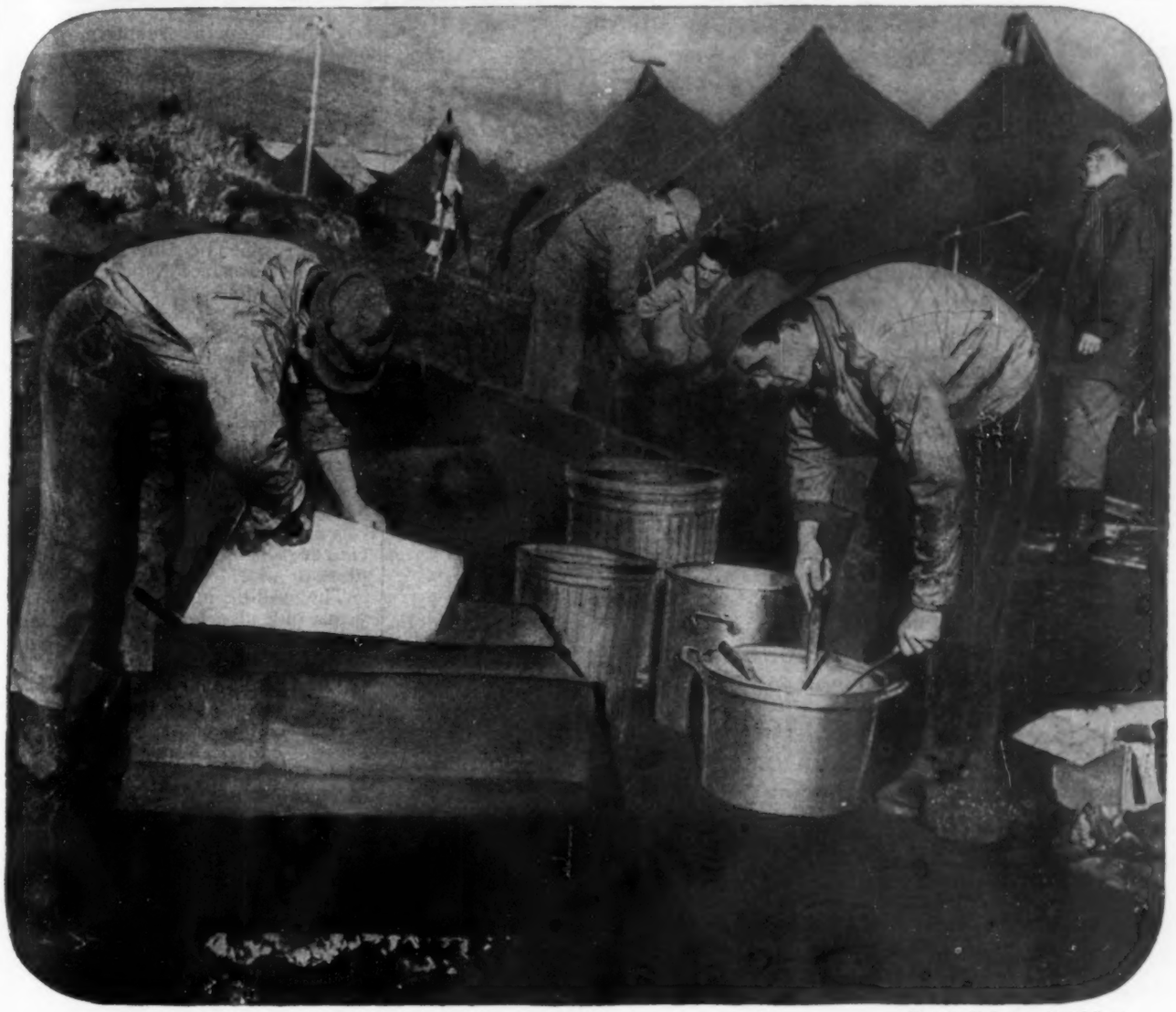


Photo by U. S. Army Signal Corps

The "life expectancy" of G. I. germs is mighty slim. Take saliva-borne bacteria. Unchecked, such germs could travel *through communal dishwater* from one mess-kit to another, spread contagion. But germicides like Mikroklene used as a dishwashing rinse give real safety.

Mikroklene *chemically disinfects* Army messkits. After washing and rinsing, a dip in Mikroklene solution destroys millions of disease-carrying microbes. Yet Mikroklene is slow to become inactivated by organic matter such as soap and food residue in the rinse water. Because of this *longer* "staying power," Mikroklene goes farther. In the Army, only 3.4 ounces of powerful Mikroklene disinfect 200 mess-kits.

After the war, Mikroklene Washing Compound and Mikroklene Rinse can provide new safety for public health. Easily, quickly—utensils *washed by hand* in restaurants, institutions, homes, can be made germicidally clean. And stationary equipment, too, used for storing and preparing food, can be chemically disinfected by sponging with Mikroklene solution.

MIKROKLENE

ECONOMICS LABORATORY, INC.
Guardian Building, St. Paul, Minnesota

MAKERS OF SOILAX, SUPER SOILAX, TETROX

Luzier's National Patron Survey

A recent national survey, based on the answers to several thousand selection questionnaires taken from all of our sales divisions and districts, gives us the following information concerning the average Luzier patrons:

AGE—WEIGHT—HEIGHT

Under 20: 9% 20 to 30: 34% 30 to 40: 29%
40 to 50: 16% Over 50: 12%
Average Age: 33 Average Weight: 129
Average Height: 5 Feet 4¼ Inches

COMPLEXION

Brunette: 62% Blond: 33% Titian: 5%

SKIN COLOR

Fair: 40% Olive: 33% Ivory: 4%
Sallow: 7% Dark: 3% Ruddy: 3%
Pink: 1% Medium: 9%

SKIN CONDITION

Dry: 48% Normal: 25% Combination: 9%
Oily: 18% Tender: 45%
Easily Irritated: 34%

COLOR OF EYES

Blue: 37% Brown: 33% Hazel: 15%
Green: 5% Gray: 10%

COLOR OF HAIR

Brown: 54% Blond: 20% Red: 7%
Black: 9% Gray: 10%

CONDITION OF HAIR

Dry: 32% Normal: 45% Oily: 23%

Broken down into divisions, this survey provides a general picture of the selection requirements of our patrons, as we see them, with relation to the climate in which they live. For instance, in the middle-west, where a large number of our patrons live on farms or in small country towns, the percentage of olivaceous skins is high. In Washington and Oregon we have the highest percentage of so-called normal skins, probably due to the moist and moderate climate. Here we also find the highest percentage of fair skins, with evidence of a more uniform type. While these averages have little bearing on our selection for the individual patron, they have a decided bearing on the development of products and their variations to suit the requirements of the various types represented among our patrons.

Luzier's, Inc., Makers of Fine Cosmetics

KANSAS CITY, MO.

pregnancy are associated with abortions. Who will deny that criminal abortions cannot be controlled?

Among adults 25 to 45 years of age, tuberculosis maintains its frightful name as "captain of the men of death." Its four principal allies in this group are heart disease, accidents, cancer and influenza and pneumonia. Can anything be done to prevent unnecessary deaths from cancer? Much has been done, but more remains. Surgery, x-ray and radium have produced thousands of so-called "five year cures." The American Society for the Control of Cancer, with its Women's Field Army, has potently demonstrated anew—as the National Tuberculosis Association had previously done—that a voluntary organization of laymen and physicians can help prevent deaths which occur because the individual citizen is ignorant of or indifferent to his personal responsibility for seeking reliable medical aid. Perhaps more than in any other disease, delay in diagnosis is fatal in cancer. "Too late" is the chilling phrase.

The middle aged adult, 45 to 65 years old, also faces cancer as one of the chief hazards of his life. Approximately one in seven indifferent people in this age group may be expected to be carried off by cancer. But even more dangerous are the causes of death which fall under the triad of the most disastrous phrase in the English language: cardiovascularenal disease. This includes the three causes of death known popularly as heart disease, stroke and kidney disease. With pneumonia and influenza and accidents, the five diseases here mentioned account for almost three-quarters of the deaths of the middle aged.

In old age, statistically reckoned as beginning at 65, the five leading causes of death are substantially the same as for the middle aged: heart disease, stroke, cancer, kidney disease and pneumonia and influenza. But the death rate from heart disease is more than quadrupled.

In the "Mortality Summary" we have at last the complete, basic document of facts on which we can agree and take action. Public action may be necessary and in some phases desirable. Most of all, each person in the nation must highly resolve to accept the responsibility for his own health care and education. Only thus can we save the lives of a quarter of a million Americans who die foolishly each year; only thus can we avoid the toll of involuntary suicides that even in these years of war are more deadly than war.

AGAIN, ZENITH MAKES HEARING AID HISTORY!

Brings New Smartness and Style at No Extra Cost with the

New Neutral-Color Earphone and Cord

ZENITH made hearing aid history by bringing fine precision *quality* within reach of all. Now Zenith follows through—makes history again—brings you, in its complete production, an entirely new standard of hearing aid *smartness and style!*

With the exclusive New Zenith Neutral-Color Earphone and Cord—developed after years of research—Zenith now does for its hearing aid what modern styling did for eyeglasses! Now America's hard of hearing can wear an aid with visible parts that are *scarcely noticeable*, because they complement any complexion. Best of all, they are available to present purchasers at no extra cost—*included* at Zenith's history-making low price of $40!

With this smart new Zenith ensemble, even the most sensitive wearer can feel poised and confident. For it brings an attractive new "look of youth" to the hearing aid. You'll notice it immediately when you look at yourself in the mirror. Now, no one need feel so self-conscious about wearing a hearing aid.

See the proof of this today. And *hear* the proof of excellence in performance that has made America swing *overwhelmingly* to the New Zenith Radionic Hearing Aid. Visit the Zenith-franchised dispenser nearest you. Or, for complete information by mail, use the convenient coupon below.

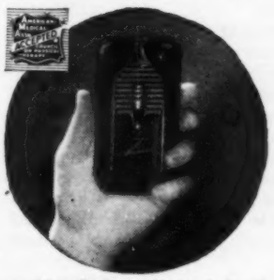
THE NEW EARPHONE

- Smart, modern, scarcely noticeable! Pleasingly neutral in color so that it complements any complexion.
- Sturdily constructed of beautiful, long-wearing plastic.
- Comfortable to wear because it's feather-light in weight.

THE NEW CORD

- Made of translucent plastic—looks well with any apparel. Friction or clothing noise is less than with any of the old-fashioned fabric-covered cords.
- Slender, light in weight, infinitely smarter and more comfortable to wear.
- Perspiration-proof . . . water-proof . . . kink-proof . . . washable. Will not fray, wipes clean with damp cloth.

THE NEW ZENITH RADIONIC HEARING AID



Accepted by American Medical Association Council on Physical Therapy

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BY THE MAKERS OF

ZENITH *LONG DISTANCE* RADIO

RADIONIC PRODUCTS EXCLUSIVELY—WORLD'S LEADING MANUFACTURER

GOOD NEWS FOR CANADIANS

The New Zenith Radionic Hearing Aid is now available in Canada—*direct by mail only*—at $40 complete (Canadian currency) with no additional charge for transportation, duties, taxes! For details write our Canadian distributor, Dept. HYG-8, Zenith Radio Corp. of Canada, Ltd., Guaranty Trust Bldg., Windsor, Ont.

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Sulfas and Penicillin

(Continued from page 581)

local use of these sulfa drugs, especially by the laity, is to be avoided. Recently the sulfonamides have been put up as nose drops, ointments, lotions and in various other ways for local applications. The sale of these drugs over the counter should be prohibited, and there is considerable agitation to have such a law in all states.

One of the great advantages to the use of the sulfonamide drugs is that they may be taken by mouth. There are methods for the determination of the amount of the drug present in the blood, the urine and the tissues, so that the physician is able to follow the course of the drug in the body quite closely. It cannot be emphasized too strongly that people should not take these drugs unless there is careful medical supervision over the condition for which the drug is being taken and to guard against dangerous toxic reactions. There are certain persons in whom a relatively small amount of these drugs will cause severe reactions; consequently the sulfa drugs cannot be given to such persons. It also occasionally happens that certain organisms become resistant to these drugs, and they are of little value. Then other medicinal agents must be employed, and here is where the next group of important new agents comes into play.

Penicillin is one of a considerable number of products which result from the growth of molds. Penicillin was discovered in 1929 by a physician named Fleming in St. Mary's Hospital in London. Fleming found that when a mold grew on one of his dishes, bacteria did not grow wherever the mold was present. In other words, it seemed that a product was formed by the growth of the mold which killed off the bacteria.

This discovery remained a laboratory curiosity from about 1929 until a few years ago, when the product of this mold was first used in the treatment of human disease. A group of workers at Oxford University in England first tried it out in human patients in 1941. The enormous possibilities in the treatment of disease not easily controlled by the sulfonamide drugs were immediately recognized, and within the last few years the advances with this substance have been truly phenomenal. Its value as a therapeutic agent for the armed forces was also immediately recognized. Consequently, the production of this material was fostered and controlled by the government and, until quite recently, practically all the material was set aside for the use of the armed forces. Fortunately, however, production has been enormously speeded up and the indications are that large amounts will become available for civilian use. There have been a number of problems connected with its production, but it is now estimated that in the near future there will be sufficient amounts available for both the armed forces and civilian use. In 1943, the amount of material produced was about 15 pounds, or enough to treat 21,000 cases. This indicates that the material is powerful. In March of this year alone 31 pounds—twice the total for 1943—was produced, and production is still being accelerated. Fortunately the cost of production has also been markedly reduced. It is estimated that the average production cost has dropped in one year from $7,000 per half ounce to about $7,000 per pound. These figures are supplied by a former head chemical adviser to the WPB and coordinator of the penicillin program.

Penicillin is remarkably effective against such diseases as pneumonia, meningitis, osteomyelitis (infections of the bone), carbuncles and gonorrhea, and promises to be of great value in syphilis. This material unfortunately cannot be taken by mouth and has to be injected. But it has a marked advantage over the sulfonamides in that the toxic reactions are few and relatively mild—for the most part negligible in fact. Among reactions that may occur are chills, fever, blood clots at the site of injection, tenderness, hives, headache and some tingling. It is thought that some of these reactions may be due to impurities in the preparations, and that as the material becomes purer these reactions will become rarer. There have been announcements that penicillin has been obtained as a chemically pure substance. Actually, however, the drug formed by the mold contains only a small amount of the active principle and a large amount of impurities.

Penicillin finds its chief use in those cases in which the sulfonamide drugs cannot be employed, either for the reason that the patients are sensitive to these drugs or that the particular bacteria are resistant to the sulfonamide drugs. The combination, however, of the sulfonamides and penicillin has placed within the hands of the physician an enormously powerful weapon for combating a number of our serious infections. Sulfonamides and penicillin do not kill bacteria directly in the body but prevent their growth and development and enable some of the body cells to handle the bacteria adequately.

The accompanying table shows the various diseases which are not affected by either the sulfa drugs or penicillin and the relative efficacy of these therapeutic agents.

COMPARATIVE EFFECTIVENESS

Type of Infection	*Sulfonamides*	*Penicillin*
Fungous infections	Ineffective	Ineffective
Virus infections	Ineffective	Ineffective
Typhoid	Ineffective	Ineffective
Tuberculosis	* Some evidence of effectiveness	Ineffective
Malaria	Questionable evidence of effectiveness	* Ineffective
Colon bacillus group	Some evidence of effectiveness	Ineffective
Lymphogranuloma, Trachoma	* Some evidence of effectiveness	* Some evidence of effectiveness
Meningococcus	Effective	Effective
Syphilis—primary state	Ineffective	Highly effective
Streptococci anaerobic	Ineffective	Some evidence of effectiveness
Streptococci viridans	Ineffective	* Some strains some evidence of effectiveness * Some strains ineffective
Staphylococcus	Some evidence of effectiveness	Effective
Streptococci hemolytic	Effective	Highly effective
Pneumococcus	Effective	Highly effective
Gonococcus	Effective	Highly effective
Gas gangrene group	Effective	* Highly effective

* Laboratory data only.

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I.V.C. confines its efforts solely to the production of vitamin medication for preventive therapy and vitamin specifics for pathologic vitamin deficiencies. Years of laboratory research and wide clinical application have produced vitamin products of unvarying quality, accuracy and potency. 15 I.V.C. products and 26 dosage forms are accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

For assurance of highest quality at a saving in money, ask your druggist for I.V.C. products when buying vitamins.

INTERNATIONAL VITAMIN CORPORATION

"The House of Vitamins"

22 EAST 40th STREET, NEW YORK, N. Y.

CHICAGO · LOS ANGELES

Home Front

(Continued from page 575)

dles the real problems which our new war-shaken way of life brings.

Thus it is important for every woman to face her problems squarely, recognizing that both physically and psychologically they are considerable, and to set about working out a way of life that is not only endurable but also holds enough joy and worth to enable her to maintain the perspective and humor, the serenity and resilience which are indispensable in creating the kind of home she wants for her children.

Of all the problems that are mentioned by tied-down mothers, the biggest one, by all odds the hardest one, is the difficulty of getting away for even an hour from the constant pressure of responsibility for the children. Those whose children are in school for even a half day don't have this problem, for they can relax during that half day and let the nerve ends uncurl. But the thousands of mothers who are "on call" for twenty-four hours of every day will know what I mean when I say that this unending tour of duty is a lively cause of "war nerves." Unrelieved tension in any kind of work results in nervous exhaustion. For the mother of small children it means that she can never take her ease with a group of friends, never attend meetings, never go on an all-out shopping binge and—hardest of all—cannot take any significant part in important and stimulating war activities.

It may not sound like much of a problem when men are crouching in foxholes in New Guinea, and other mothers of other small children are ducking into air raid shelters in many parts of the world, but every person who has minded a small child for months on end without an hour's holiday will know that it is not a little problem and that to scoff at it is a mark of inexperience.

The obvious answer which many communities have been reaching is the forming of cooperative groups to care for little children, with one mother taking her turn one morning a week. Where this kind of arrangement is feasible it is a life saver, for it insures every member of the group having an acceptably intelligent and conscientious person in charge of her children while she goes to the store or scrubs the floor. Even where a daily nursery group cannot be engineered, there is the possibility of a weekly exchange of children with some friend or neighbor. One young woman expecting her first baby began, months before her baby came, to stay with little children in her neighborhood when their mothers needed to be away for a few hours. Often she and her husband sat for an evening with a sleeping baby while the parents went to the movies. That was why, when her own son was a few months old, she could accept an unexpected dinner invitation without hesitation. There would always be somebody in their big apartment block who would return the courtesy she and her husband had extended.

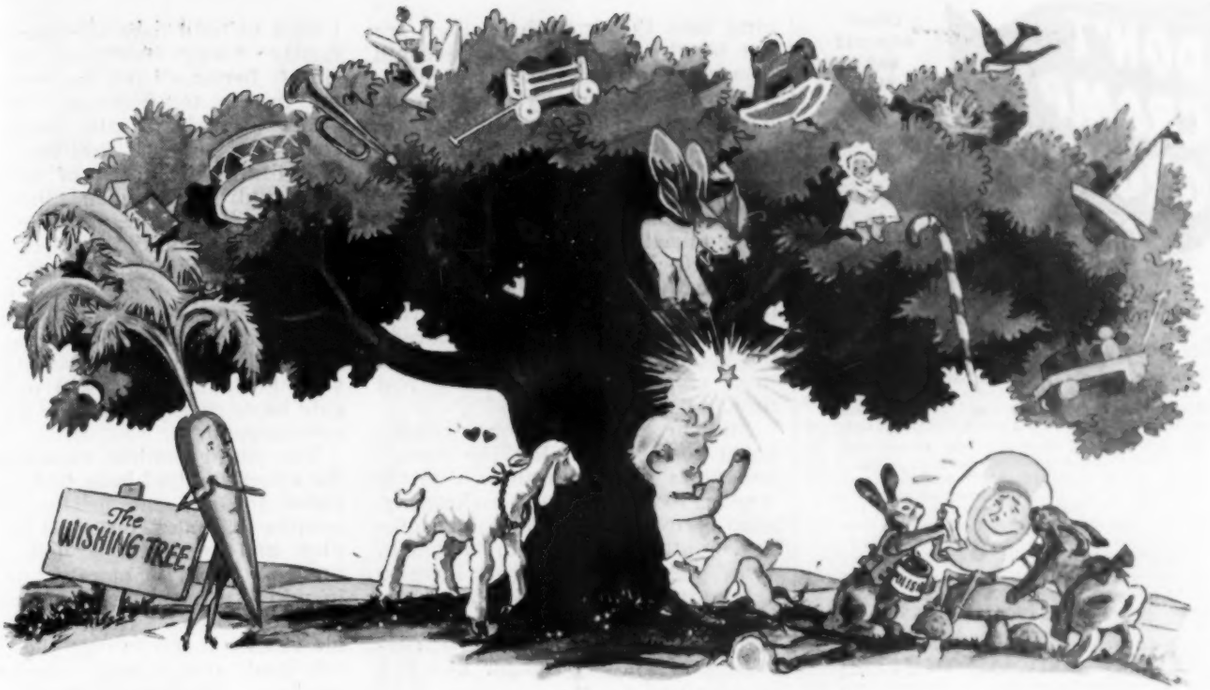
There are, unfortunately, many instances in which exchanges cannot be worked out. Neighborhoods in which there are no other small children are not likely places for nursery play groups, and difficulties of transportation dictate that any group activity shall be strictly a local one. In such cases, and there must be thousands of them, the problem of finding a little time off for mother must somehow be solved within the family. Happy is the family which can call on a grandmother or an aunt for the afternoon off.

When this is impossible, it will probably have to be the husband who comes to the rescue. Fathers who are not hardened by long habit to taking over the responsibility for the children may view the prospect with alarm. But a good many of them are facing the music these days, recognizing the real need of their wives for a breather. And many wives who heretofore have always felt that it was unfair to saddle the husband with the children in his limited free time are wisely accepting the proffered aid. They know all too well what poor mothers they make, what dull wives they will become, if they never have the opportunity to see over the rim of the domestic world.

What a mother does with her time off should, if possible, be the thing that she wants most to do. If it relieves the strains of life most to do the family marketing or shopping, perhaps that is how she should spend the time, but the entire family will probably get greater dividends if she can manage to get away from home cares entirely—if she can visit friends, or see a play, or spend an hour at an art gallery or a concert. One maidless woman whose husband has for some years taken over for her on an afternoon off takes a long, solitary walk. When she talks of her own sense of deep and blessed freedom during those walks, it is not hard to believe that her husband and children are amply rewarded for the three hours a week they give her.

Fitting her rigidly scheduled free time into a community's program of war work is so difficult that even trying to do so daunts many women. Nevertheless the satisfaction of having even a tiny part in our great national effort is so real that it will repay tied-down mothers to turn every stone. One mother of three preschool daughters achieves it by driving for the motor corps of her town's Red Cross. At times which she has carefully arranged with the head of the corps, she taxis blood donors who have no other means of getting to the blood donor center. Sometimes, when the plan for free time goes awry for some reason, she loads the three babies into the back seat. Another mother, a newcomer in a feverish war center, feeling somewhat lonely and cut-off, took on the responsibility for a short list of families in the educational campaign on salvage, conservation and blood donation which the Office of Civilian Defense has sponsored.

A second big problem of these workers on the home front is that of physical fatigue. It is impossible to state this problem too strongly. It is a major hazard for almost every mother of a small child. It is probably true that this fatigue is due in part to emotional tensions caused by the need to get too much done in too short a time, or to a burning desire to be doing something else besides making beds and hanging up diapers. Yet to recognize this is not to solve the problem. Nor indeed is it the whole truth about the fatigue resulting from the nonstop job of caring for small children. The solution for these wartimes—as for all other times—is for the woman who wants to be a good mother to find somewhere in her day the time for the rest she so sorely needs. To get it she will probably have to sacrifice some other value. Her house may not be so clean; there may be no handmade dresses for little sister; there may be no jar of home-made cookies on the pantry shelf; she may have to forego flower beds in her front yard for a few hectic years. But it is surely senseless to strive after all these things if they are bought at the expense of a serene spirit and of physical well-being. Nobody who is tired can be an amiable human being. If in getting the clean house and the flower beds she pushes herself to the point where she can't help screaming at the children when they inevitably turn over a glass of milk or track



Once there was a baby, a lamb, a carrot, a plate, and—

A Wishing Tree

FIRST—THE BABY WISHED
to be stronger than anybody. And he was! He got so many nourishing vegetables in his Clapp's Vegetables with Lamb. And all the vitamins and minerals made him grow, and grow, and *grow!*

SECOND—THE LAMB WISHED
to be loved by a baby. And it was! It was such dee-licious lamb that went into Clapp's Vegetables with Lamb. (What a dish for a baby—practically a meal in itself!)

THIRD—THE CARROT WISHED
to be picked for her beauty. And she was! Of course she had to be *specially* wonderful, because only the very best vegetables are good enough for babies, and good enough for Clapp's Vegetables with Lamb!

FOURTH—THE PLATE WISHED
to shine like the sun. And it did! Every time it came to the table it was full. But after the Baby ate his Clapp's Vegetables with Lamb, the plate was so clean that it shone! Which shows how "Babies Take to Clapp's"!

THEN—EVERYBODY WISHED
—that there'd be plenty of Clapp's *strained* and *junior* foods for all the babies who need them. So please, everybody, use these special foods only for babies, not for anyone who can get along on ordinary foods. (Remember to use unrationed Clapp's Instant Cereal and Instant Oatmeal to help fill your baby's nutritional needs.)

DON'T CRAMP GROWING FEET!

CRIME AGAINST BABY FEET

Get Baby That EXTRA Shoe Stamp

Don't let rationing ruin your baby's feet. Extra stamps are available from your rationing board when needed. Shoes *too large* are as bad as shoes *too small*. Get a PROPER size often.

WEE WALKER shoes avoid all unnecessary costliness and concentrate on *foot health*. They provide a painstakingly designed live-model last, flexible construction and soft materials. No shoes are better designed for normal baby feet. Thousands of doctors prescribe WEE WALKERS, because they sensibly meet baby's needs. Ask *your* doctor.

See these correct, moderately priced WEE WALKERS . . . *compare* them . . . in infants' department of these *low profit* stores. (Birth to size 10).

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FREE: Pamphlet, "Look At Your Baby's Feet." Contains valuable information and measuring scale to determine size needed. Write Moran Shoe Co., Dept. H, Carlyle, Ill.

BABY FOOT IN WEE WALKERS

COMMENDED PARENTS' MAGAZINE CONSUMER

WEE WALKER Shoes

FOR Wee WALKERS

"Keep Baby Safe!

GUARD AGAINST THIS..

with the PAT. NO. 2161658

BABEE-TENDA Safety Chair

Protect your baby from SERIOUS FALLS

Get SANITARY One-Piece Top PROTECTION

Falling high chairs cause many serious and fatal accidents each year. Your Baby is much SAFER in a BABEE-TENDA Safety Chair because it is low and can't be tipped or pushed over. A Safety Halter Strap positively prevents Baby from climbing out. A very important feature is a SANITARY one-piece top. It has no sliding panels with grooves and cracks to catch milk and food and breed dangerous germs or pinch your Baby's fingers. The foot rest is rigid, adjustable and locks at the proper angle. BABEE-TENDA Safety Chair is highly recommended by leading Baby Specialists, Hospitals, and Nurses. It is 22" high by 25" square. Can be used outdoors and is easily rolled from room to room. Folds compactly for traveling. Later, after Baby outgrows the seat, it can be converted into a sturdy play table.

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THE BABEE-TENDA CORPORATION
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mud into the front hall, they are not worth the price. The strength to stand up under the ridiculous pin pricks of family life has its basis in abundant physical strength.

If the children are still quite small, their nap period gives the mother her chance to rest. If they are past nap time, they can still be required for their own good to play in their own rooms for a stated time, calling no one, attending to their own wants. It is entirely fair and in accord with training for good citizenship to insist that they respect their mother's rest time.

Another principle for working out a good way of life for oneself and one's family in these difficult times is to streamline housekeeping, making every time- and strength-consuming detail prove its worth. Some pleasant details may have to be eliminated. Linen napkins may give way to paper ones; underwear and pajamas may go unironed; curtains may stay up longer between launderings.

The same thing applies to the schedule of family activities. It may be wise to make corner-cutting changes in the daily calendar of events. It has been said with entire truth by child psychologists that accustomed routines give little children a sense of security. However, even in following a proved principle, common sense tells us that one thing should be balanced against another so that a workable program of family activities can be evolved. Mothers need now, as never before, to test each item of family activities by the rule: Does this custom or activity serve the present needs of the family group—or have changed conditions so altered our way of life that the values the activity once fostered are no longer served?

One young mother who had been struggling for a year and a half to maintain the pleasant family custom of having the children eat the evening meal with their father exclaimed, "Since my husband went into a high tension war job with long, uncertain hours, I have been worn to a shadow keeping the children up for Daddy. From 5 o'clock until the increasingly late hour when he gets home is an ordeal, for the children get tireder and wilder by the minute; they are hungry and cross and almost unmanageable. But it means so much to both the children and their father to have supper together that I feel I should keep them up for him if I possibly can." An older woman whose children are now grown spoke up and said, "I wonder if it is worth all that effort to any of you. I can remember how I used to hold onto the idea of the family doing something together simply because I felt there was virtue in the togetherness. But the effort to mobilize the group was sometimes so great that the important thing—the spirit of comradeship and joy in each other—was lost in the process. Since the practical difficulties are so great, why not let the family dinner idea slide and get those children to bed at a reasonable hour. Use the energy and good temper you save for what is left of the evening with your husband. You will probably gain more than you lose by the new arrangement."

The young mother, exhausted by the effort she had been making, decided to take the advice. Some months later she confessed the new plan had been like a deliverance for her. This is merely one way in which a more flexible approach to the details of a household schedule can do much to ease the physical and psychologic strains of wartime. Perhaps there is not a woman in the country who could not, if she looked at her day's work with fresh and critical eyes, see where she might make things run more smoothly by a few simple changes.

Indeed, the secret of keeping happily attuned to the demands of life at any time in any place is flexibility. This applies not only to traditions and to a schedule of activities but even more profoundly to one's outlook. When a family moves to a new community, as so many thousands have been doing during the last two years, many of the delightful things about the home town are lost—if not forever, at least for the duration. It is hard not to grieve for them—especially if they are such values as safe play space for the children, good schools, quietness, beauty and friends. But it is really senseless to spend much time regretting them in a world where change is inevitable. Aside from that, it does just exactly no good at all to grieve for the quiet and the space and the friends. They are gone, along with our pre-Pearl Harbor security. It is possible, as thousands of women are proving, to set about the task of finding new values, new interests, new friends with an eager expectation of finding them. And it can be done in spite of being tied down—in spite of having an extreme minimum of time and energy to devote to it.

One of the secrets of being able to handle any big job without straining the sinews of one's soul is to do a single task at a time, not only with one's hands but with one's mind and emotions as well. Many

a woman makes her job unbearable by the fact that while she peels the potatoes, she reaches ahead with half her mind to begin scrubbing the floor; while she is pouring the baby's formula she is pushing on to get the baby into his bath. When she does this, great slabs of potato go into the scraps along with the peeling, and the formula is spilled. Worst of all, the woman herself is soon breathing hard, her nerves tightened into fatigue-producing tension. The whole job of keeping a family going does not have to be done in any one instant. At any given moment all one has to do is precisely what one *is* doing—that is, peel the potatoes or pour the formula. Doing one thing at a time with one's whole attention gives relaxation and in the end greater satisfaction. Napoleon is said to have been capable of doing ten or a dozen things at a time—but don't forget, even he got ulcers of the stomach!

After all is said and done, the greatest help any mother can have in carrying the heavy psychologic and physical responsibilities which are hers is her own sense of being engaged in the job which for her is inevitably *right*. Many women who have tried full-time jobs away from home, leaving their preschool children in charge of helpers who, they earnestly hoped, would do the right thing, eloquently testify to the profound inner conflict which besets them. No matter how tired a tied-down mother may become, no matter how exasperated she may get with the tugging at her psychologic and physical skirts, she is probably more nearly united inside herself than she could be if she had chosen a war plant job. She is not so likely to be a prey to that vague sense of disorganization which springs from doing one thing while somewhere within her lingers the haunting feeling that she ought to be doing something else.

And while the tied-down mother may feel herself left behind in the sweeping march that is today's war, she can reassure herself that in playing well her part as a mother she is making a contribution surpassed by none in its profound social significance. For it is no mother's day platitude, but sober, solemn truth, that there is no greater social service than building children who are today cooperating, right behaving young people and who tomorrow can confidently undergo the rigors of adult life, meeting and mastering its uncertainties and frustrations. To do that work without becoming disheartened or beaten is one of the biggest undertakings a wartime world offers any of us.

Dave Says:

When my two baby sisters were born things really did start popping around our factory, 'cause then Mom and Dad said they wanted to "perfect" the Welsh Easy-Fold Carriage. Mom said she knew just exactly what other mothers were up against and she wanted to help 'em to make things easier.

See, I'll show you a Welsh Easy-Fold. This one's a honey. We call it No. 116 and you can get it from your dealer.

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QUESTIONS AND ANSWERS

Chiggers

To the Editor:—We are bothered with chiggers. This is a small black bug that seems to bite one and burrows under the skin. Can you tell me how to get rid of them, the treatment for one who has been bitten and how one can keep these bugs away?

Illinois.

Answer.—Dusting one's clothing with flowers of sulfur is recommended by the United States Department of Agriculture as a preventive measure against the little pest to picknickers familiarly known as the chigger. Sulfur is also applied in cream and foam preparations which make application easy and hold the sulfur in contact with the skin.

Unlike the itch mite, the chigger does not burrow but merely pierces the epidermis. When he is thus anchored he remains quietly in place and begins a process of breaking down the skin by digestive juices from his mouth. He remains on the human body between two and four days. He drops off engorged with a fatty, predigested tissue juice, not blood.

Treatment consists of removing the mites, which perhaps is best accomplished by an application of benzene or kerosene, followed by bathing for half an hour with liberal application of soap, and a complete change of clothing. The second objective is relief of the severe itching.

Destroying chiggers is hardly possible in areas covered with woods and undergrowth, but they can be kept away from homes and camps by clearing away underbrush and weeds, by keeping grass cut close and by dusting the ground with powdered sulfur.

Artificial Respiration

To the Editor:—I would like to ask a question concerning the prone pressure method of resuscitation, as we teach this regularly to our employees and have always taught them to put the patient face down, pressing down on the lower ribs about fifteen times a minute, but releasing gradually. I understand others teaching this same method recommend releasing the hands from the body quickly. I do not know just what their contention is for this quick release, but I do realize that if a person had to apply the prone pressure over a long time this would increase their fatigue.

Oklahoma.

Answer.—Quickly releasing the hands from the patient's body has two possible advantages. To carry out a quick movement the operator starts his backward swing by a slight push against the patient. This gives a certain amount of extra compression and somewhat increases the ventilation. A quick release also allows a full and free elastic recoil of the thoracic cage. Many descriptions of the prone pressure method do not emphasize the quick release. It has its advantages, but they are possibly not of major importance. As for fatigue, a quick movement involves more work than a slow one. The operator could probably detect the difference.

Loss of Hair

To the Editor:—What is alopecia? What is meant by alopecia areata?

Illinois.

Answer.—Alopecia is merely a general term meaning loss of hair.

Alopecia areata may affect either the scalp, the beard, the eyebrows, or all three. It may be caused by or may be observed in connection with a number of apparent causes. Among these are infections, nervous disturbances, injuries and constitutional disease. The most prevalent opinion at this time is that it is due to a nervous disturbance.

The successful treatment of it depends on the condition of the patient and must take into consideration the general physical con-

dition, the local health of the scalp and other factors which can be considered only by a physician who knows about the case.

The localized forms, especially occurring in younger persons, are likely to get well, while the generalized form, which affects all the hair of the entire body, even including the tiny, downlike fuzz on those parts of the body which are not usually regarded as hairy, will not get well.

The disease may and does affect parts of the body other than the scalp.

Hay Fever

To the Editor:—I am a victim of ragweed hay fever between August 15 and the first frost arriving the latter part of September, and have had this allergy for eight or ten years. For several years I took shots, but because they did not seem to relieve the condition, I discontinued them. I am expecting my first child around the fourteenth of September and want very much to breast feed the baby, providing I have the quantity and quality of milk necessary. What I am wondering is whether I should right now give up the very hope of so doing. Would breast feeding the baby at that time be harmful to him? I realize that there is some likelihood of the baby inheriting that "gene" which would make him susceptible to hay fever. Would breast feeding the baby during my own period of suffering tend to hasten his acquisition of the same allergy?

Washington, D. C.

Answer.—There is no possibility of increasing the chances of the baby becoming allergic through breast feeding. Whatever the tendency is to become allergic, it is transmitted as an hereditary characteristic, rather than through mother's milk.

Morons Are No Menace

(Continued from page 593)

order. Society's only legitimate concern with morons is the same as with anybody else—namely, to so guide their growth and stimulate their development that they will lead lives satisfactory to themselves and useful to society. Just because they are simple people, this should be less difficult to accomplish with morons than with others. It is a matter of detection and education, and it is being done.

Detection is easy. The school, or the parent, with the aid of the psychologist, can soon determine who is deficient. Public schools in most cities and large towns have special classes for the mentally deficient. There are private schools for those whose parents can afford them. With training along industrial and manual lines, these defective children can acquire self respect and the interests and skills needed to earn their living and become useful citizens. They will then have no cause or reason to feel inferior to other people and are not likely to behave in the antisocial manner that often results from such feelings. The bringing-up of anybody involves shaping and modifying the disposition and personality and character, which are quite as important as intelligence in determining adult behavior. Intelligence cannot be increased very much, but morons can learn to be polite, persistent, honest, truthful and so on. The boy can be shielded from poolroom and street-corner associates during his formative years, and the girl can be protected from invitations to prostitution during her adolescence. Social agencies and public spirited citizens can keep an eye on both of them in later years. And of course, like every one else, they can be instructed in modern birth control technic.

In short, the feebleminded are no menace at all. They are people—simple people and not very bright—but people withal; and they have the same needs, wants, rights and to a degree the same possibilities for development and usefulness that other people have.

The people over whose guidance and development we should really be concerned are those at the opposite end of the intelligence scales—the very smart people—for it is from their ranks, and only theirs, whence come those all too frequent individuals who achieve great knowledge only to apply it to evil ends, or great wealth only to use it to exploit others, or great power only to wield it to instil hatreds, to oppress minorities and to start wars of conquest.

There, and not in the feebleminded, lies the real menace to civilization and to culture.

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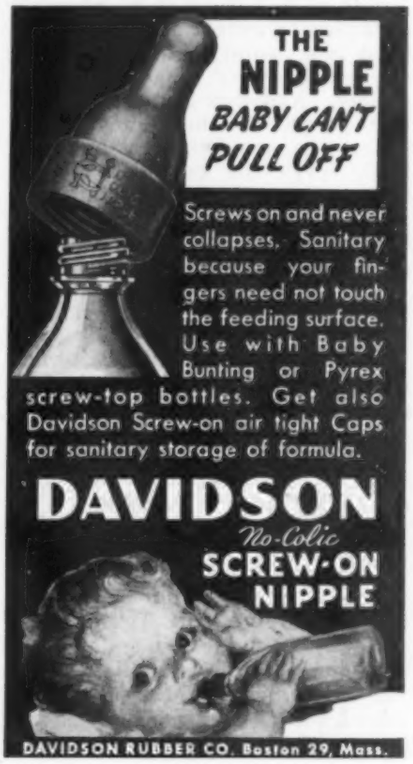

By
CALVIN T. RYAN

Our own nervous and feverish way of living may be the explanation of many of our children's problems

Why Shouldn't Our Children Be Nervous?

SOME mental hygienists are already wondering whether or not we can stand the present feverish manner in which we are living. The war has accentuated the condition, to be sure, but the mad rush was on us before Pearl Harbor. These same specialists talk about "a sound mind in a sound body in a sound society," and then hasten to tell us that there is no accurate definition to which all can agree on what is a sound mind, or what is a sound body, or what is a sound society. And that is disconcerting. The people in the valley below Shangri-La avoided excesses of all kinds, even the excess of virtue, and seemed to be happy. But most of us in the United States seem to enjoy excess of every kind—except, perhaps, the excess of virtue, and we were beginning to question our happiness even before Pearl Harbor.

And what about our children? Are they not reared in an atmosphere of rush, of nervous tension, of noise, of what has been called "city fever"? Even the country child is being affected. He too must ride in the speeding automobile, listen to the blaring radio and be rushed off to school.

Such are the times. We cannot fly to Shangri-La nor bring the lamasery to America. Teachers say children are restless in school, that they are not so easily disciplined. Medical authorities tell us of the school child's nervousness, and psychiatrists tell us of young mothers who come to them to find out why they are nervous and why they get no kick out of life.

"Our nerves" may be the answer, but is it quite fair to impose the consequences of "nerves" on our children? Children absorb their surroundings, including the nervous tensions of Dad and Mother. We need not condemn all wives who leave their homes daily to work on the assembly lines, nor all mothers who turn over the key to their children while they work at the air base. If there is a real need for the extra money, such work is a patriotic service. But if there is not, no pay is sufficient to recompense the mother's absence from her home and children. There is something reassuring about finding Mother at home when the youngsters return from school. One little girl said that she went into the house after school and when she did not find her mother there, she took her teddy bear and had a good cry. Can you measure what that child experienced against a few dollars?

Perhaps many of us parents are too conscientious about having children who are always first in everything. By direct statement or by implication we impress on the child that we expect him to make all "A's," play first violin in the orchestra, get on the honor roll every week and hold all the top offices in his class. If the child is doing his best, applying himself according to his natural ability and is wholesomely happy in doing it, we should be satisfied. It is a dreadful thing for a conscientious child to fail. Too often, he thinks he has failed unless he reaches perfection. He thinks his parents will be disappointed in him and that is tragic. Such pressure on the growing child is surely going to leave its marks; it may be in nerves, or it may be in shortcuts which are dishonorable.

There are few children who are not better off to have a vacation from their music lessons at the same time they have a vacation from their school work. It is the part of wisdom these days to keep the adolescent wholesomely occupied during vacations and holidays, but the work should be of another kind. The child's eyes may need some wholesome rest and relaxation in long distance work and play.

Even the sixth grader has his worries. Studies show they are not given always to disclosing those worries, but still they may harbor them. A college student told the writer that she was very unhappy as a child, not because she did not have a good home and loving parents but because of secret fears

Dramatic Loss

of protein occurs in severe burns. Aside from infection, it constitutes the most serious threat to the burned person's life. Hence the diet is adjusted as early as possible to contain several times the usual protein allowance, and *complete* proteins are required.* Meat is man's outstanding protein food, not only because its protein content is so high, but also because its proteins are of highest quality, *complete* since they contain all the indispensable amino acids.

*Based on the experience of the physicians who treated the unfortunate victims of the Cocoanut Grove fire in Boston, Drs. Clowes, Lund and Levenson stated in the November 1943 issue of the "Annals of Surgery" that all the patients with severe burns became serious nutritional problems; that all required high protein, high vitamin diets. In January 1944, Dr. R. Elman stated in the Journal of the Missouri State Medical Association that at least 200 to 300 grams of protein is needed daily for replacement alone; as much should be given in the form of food as the patient can take. "... give him a good protein, one that contains all of the essential amino acids."

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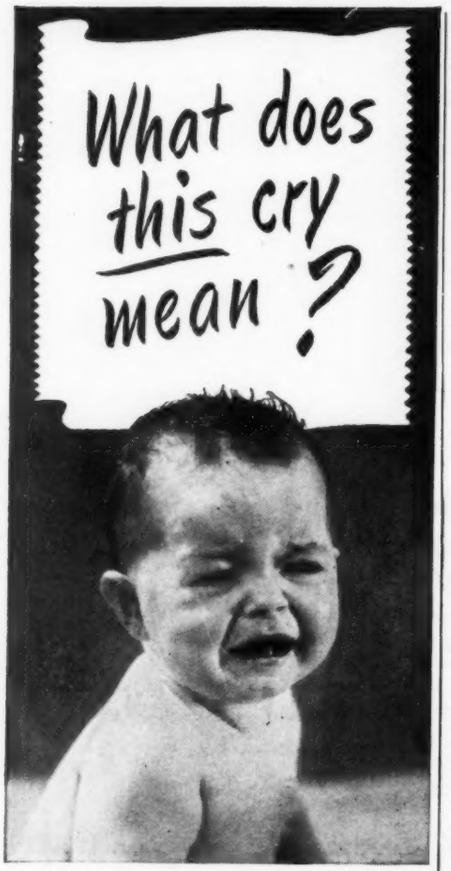

Is it fear, hunger, temper, discomfort? Maybe it's just normal lung exercise. Mother should know and act accordingly.

• Baby's crying, something which can easily upset your home, is one of the many subjects taken up in our "Common Sense in Training Baby," written *for you* by an outstanding baby authority. Sent to you free, as a gift from CHIX. Please fill out the coupon below.

CHIX plants are humming, turning out surgical gauze and other war material, *plus* as many CHIX DOWN-WEVE diapers as possible. Baby will thank you for waiting for CHIX . . . sensationally soft, absorbent, made of light-as-a-feather bird's-eye gauze. CHIX wash easily and dry in a jiffy.

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which literally haunted her. In her dreams she was always hearing music, and that meant to her that either she or her parents were going to die soon. The young lady said she never told anyone of her unhappiness, that she would not have thought of telling her parents. Hers was, perhaps, an extreme case, but we now know that children do have their worries. One little girl is afraid there will be a war when her brother gets big and that he will have to go and will be killed. A little boy is afraid his Daddy will not return. These are extremely hard times for children, and certainly we should try to understand them and help them.

Children are too young for such a book as Dr. Edward Podolsky's "Stop Worrying and Get Well," but their parents might profit from reading that, and also from reading Dr. Arnold S. Jackson's "The Answer Is—Your Nerves." Then these parents can select books for children which give them a sense of security, books for adolescents which will help them understand themselves. The worried child is the maladjusted child, and the maladjusted child can become neurotic very easily. And, likewise, he can become a juvenile delinquent.

However well meaning our educators may be, they must still bear the charge of too frequently teaching subjects rather than children. They seem to hope through class procedure and lesson assignment alone to produce "a sound mind in a sound body in a sound society." As a consequence, a conscientious child in junior high school may have lessons which require her to work until 10 or 11 o'clock at night five nights a week. Then there are rehearsals for musical numbers, class projects and assembly programs. Elaborate testing programs are carried out, and each subject teacher as well as each child is constantly keyed up. Tension is there from September through May. Physicians say that school teachers begin to report to them along in February, and many of them they have to carry through May. The setup is built too much on success in a commercial, competitive manner.

Of course, our children want to do what other children their age do. And we are inclined to want them to do what others do. It is hard on the child to be different. It is likewise hard on the parent to have a child that is different. He gives in sometimes when his better judgment tells him he shouldn't. For that reason it does matter where I live and with whom my children play. Right here, I think, is where the "sound society" comes in. Maybe, as parents, we should bestir ourselves whenever the society in which we find ourselves is not "sound," is not wholesome for our children.

Frequently communities make provision for the adolescent's recreation but neglect the younger child. And it is in that period we have the "gang." Happy is that community which has park facilities to sponsor children's drama, children's dances and other forms of supervised play! Recreation centers, we are told, are not the answer to the present wave of juvenile delinquency. Perhaps not, for such centers usually draw those boys and girls with good home surroundings. They do not, according to studies which have been made, take care of the children whose parents are never home in the evening. But it may be a good investment to make wholesome pleasure centers for the children who are already good.

Children are our problem. What we make of them will determine what they will make of our country when they become adults. If we are aware of handicapping them by our own nervous and feverish habits of living, we should be willing to do something about those habits for their sake.

ODE TO GRANDMA

"Orange juice?—You'll give that baby cramps.
Why, Johnny doesn't like it to this day.
Cod liver oil? Poor darling, nasty stuff—
He wouldn't take it if I had MY way.
John never did. Oh well, what's that you say?
Rickets? Bow legs? Walking too soon does that.
A little paregoric if he cries.
Hmph! Well, I guess it never hurt my John.
Oh my, I know, Grandma must not advise.
Well dear, it's late, I must be running on."

Well Grandma, though it irks, I must admit
Your John and mine is straight and tall and strong.
No childhood complex seems to blight his life,
Though modern pediatrics prove you wrong
On infant hygiene. Yet, the selfsame song
I sing my baby, you sang then to yours.
You doubtless smiled, made tenderness your rule.
And, just as I, his needs you held above
All else. Then surely, one is just a fool
To underestimate the powers of love!

—Mary Osler

Have a Coca-Cola = Let's relax a bit

...or a little minute long enough for a big rest

This year again, communities are growing vegetables. Hard-working gardeners grow tired and thirsty. Just three words, *Have a "Coke"*, always sound like music at times like that. With ice-cold Coca-Cola in your refrigerator you are ready for *the pause that refreshes* at any time. Plan to have a supply on hand, ice-cold. Coca-Cola stands for *the pause that refreshes,*—has become a symbol of friendly refreshment to folks at work and at war.

It's natural for popular names to acquire friendly abbreviations. That's why you hear Coca-Cola called "Coke".

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Bronchoscope

(Continued from page 577)

cross section, with barbs staggered around it. This harpoon was lowered down the well, rammed into the plug with the drill hammer and slowly lifted out. With it came the wad of rope and the drilling tools! Young Jackson was warmly commended.

Even in this early experience, he had demonstrated some of the qualities of a successful bronchoscopist—imagination, persistence, sensitivity and a knack and knowledge of tools. But it was not until some years later that he began his career of extracting foreign bodies from the gullets and windpipes of living persons—operations infinitely more delicate and precise, but employing some of the same principles which had helped to salvage the drilling tools.

Chevalier Jackson was born in Pittsburgh in November 1865, but when he was still a small child the family moved to a country home, Idlewild. The Jackson home here lay on the edge of a coal-mining district, and most of Chev's schoolmates were big, strong fellows who had been kept out of school to work in the mines and were far behind their proper grades. Because Chev was undersized and smart for his years, they resented him and did everything possible to torment him.

His boyhood made young Chev peculiarly sensitive to suffering. Twice he saw children killed in accidents due to the carelessness of their drunken fathers. He never forgot the time he came across a wounded rabbit dragging its leg. He picked it up and it died in his arms. "I had learned a fundamental biologic fact," he writes; "that I have never since forgotten: Death is an irreversible process. All my professional life I have had a dread that the patient would cross the line beyond which I should be powerless to help him."

Jackson's father was deeply interested in science and read the latest books of Darwin, Huxley and Tyndall, while his mother, who had great skill in nursing, read books on medicine and housekeeping. Chevalier spent many of his evenings drawing designs for his workshop. When he was only 4 years old he was allowed to work with wood and sharp tools, so that a few years later he was skilled enough to do Sorrento and intricate inlaid work. As an older boy he used his workshop to make boats and sleds that were lighter and faster than any in the neighborhood.

When he was 9 years old, embezzlement by a trusted employee brought his father to the verge of bankruptcy, and the family home was converted into a summer hotel. This meant a great deal of work for the entire family, sometimes sixteen or seventeen hours a day. Even Chev had his regular tasks—setting up pins in the bowling alley, rounding up servants in the colored section of Pittsburgh and, when he was older, taking charge of the gas-generating plant and water supply. "The extensive installation of pumps, pipes, valves, check valves, water and gas fixtures, with no end of new tools," he says, "filled me with tremendous enthusiasm."

In October 1884, Chevalier Jackson entered Jefferson Medical College in Philadelphia, fortified by premedical study at the Western University of Pennsylvania in his home town of Pittsburgh and a year's practical experience under an excellent preceptor, Dr. Gilbert Sands.

At this time, a medical degree had but recently been made a requirement of practice, and many of the students were men of mature age, some of them 60 years old, who had been practicing for years and were now working for the right to put certain coveted letters after their names. The value of antiseptic surgery was still a matter of debate, and both septic and antiseptic schools had their followers among the faculty.

Jackson was graduated in the spring of 1886, not yet 21 years old and still minus the traditional beard of the doctor. During his school days he had become intensely interested in the mysterious dark passages that provide the body with food and air and wished if possible to become a specialist in laryngology, then a much neglected branch of medicine. There seemed to be no one in the United States who could teach him what he wished to know, but he had heard of a throat specialist in London, Sir Morrell Mackenzie, whose writings and clinics had become world famous. He resolved to get to London to visit Mackenzie and learn the latest methods and findings of laryngology. When he had saved a little money he took passage for London in the steerage of a Dutch steamship, where he was instantly requisitioned to care for seasick fellow voyagers. Later he was given the job of nurse to a patient quarantined in the lazarette with smallpox, and he found the clean cabin a welcome contrast to the stench and filth of the steerage. After a profitable visit to the Mackenzie clinics he returned with a dollar and twenty-six cents left from his original capital of one hundred and twenty-six dollars.

He started practice in a modest suite of rooms on Penn Avenue, one of the two "specialist" streets

VILLAGE IMMORTALITY

News travels swiftly in a town this small:
"Our Doc is dead." Even the very young
Are dazed to hear the words on rumor's tongue;
The very old do not believe at all.
I heard one graybeard say, as I went by,
"Our Doc ain't dead. Our Doc will never die."
The middle aged, both grave and cynical,
From whom "Our Doc" had won a childlike faith,
Refuse to grant the victory to death.
Over again each has some miracle
To say of Our Doc's knowingness and skill:

"Why it was only yesterday that he . . ."
"Once, when my boy was dying . . . ."
"Lived for others . . . ."

Pieced by the loving words of "Our Doc's" brothers,
A Jacob's coat of immortality.

Listening, a sense of unreality
Moves in my mind. Here in a little town,
Unnoted and unknown to the weighty world,
The epic of a kind man's life unfurled—
Illuminated by both cross and crown—
While men in little groups of four or five
With words of tribute keep "Our Doc" alive.

—Marion Doyle

The chipped teacup of the PATRIOTIC Mrs. Jones

No matter who the guest—Mrs. Jones brings out her chipped teacup with no embarrassment. On the contrary, with a thrill of pride.

Not very pretty, that chip. But it bears witness to the fact that Mrs. Jones has her nation's welfare at heart.

Mrs. Jones has given up all unnecessary spending for the duration. By doing *without*—she is helping to fight inflation.

Maybe she doesn't know all the complicated theories about inflation. But she does know that her government has asked her *not to spend*.

So Mrs. Jones is making all the old things do . . . not only that teacup. She's wearing her clothes for another year—and another. She's not competing with her neighbors for merchandise of any sort.

And the dollars she's not spending now are safely put away (and earning interest) for the peacetime years ahead. *Then* those dollars will buy things that can't be had for any price today.

If we all are like Mrs. Jones, there will be no inflation with skyrocket prices. If we all are like her, dangerous Black Markets cannot exist.

A chipped teacup stands for all that . . . for a *sound, secure* U. S. A.

7 RULES FOR PATRIOTIC AMERICANS TO REMEMBER EVERY DAY

1. Buy only what you *absolutely need*. Make the article you have last longer by proper care. Avoid waste.
2. Pay no more than ceiling prices. Buy rationed goods only by exchanging stamps. (Rationing and ceiling prices are for *your protection*.)
3. Pay willingly any taxes that your country needs. (They are the cheapest way of paying for the war.)
4. Pay off your old debts—avoid making new ones.
5. Don't ask more money for the goods you sell or for the work you do. Higher prices come out of everybody's pocket—including *yours*.
6. Establish and maintain a savings account; maintain adequate life insurance.
7. Buy all the War Bonds you can—and hold 'em!

Use it up . . . Wear it out . . . Make it do . . . Or do without

A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

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Plakie Plastic Rattles have everything . . . color, motion, feel and sound. Tested for infant appeal. Safe construction, dyefast coloring, simple to clean. Ask for "Plakies" by name.

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THE SUN-RAYED CO., FRANKFORT, IND.

HAVING A BABY?

New Hygeia "Steri-Seal" Cap protects formula

A new improvement in feeding technique. After preparing formula and filling bottles apply Hygeia Nipple by exclusive tab, then place "Steri-Seal" Cap over nipple. Thus nipple is untouched until by baby in actual feeding. Reduces danger of infection.

SAVES TIME; CONVENIENT FOR STORAGE, OUT-OF-HOME FEEDING.

Easy-to-clean Hygeia Bottles have wide base to prevent tipping, scale in color for easy reading. Famous breast-shaped nipple has patented air-vent to reduce "wind-sucking." Ask your druggist for Hygeia equipment.

CONSULT YOUR DOCTOR REGULARLY.

HYGEIA
NURSING BOTTLES
NIPPLES AND
"STERI-SEAL" CAPS

of Pittsburgh. They were arranged so that he could eat and sleep there, thus saving the cost of a separate apartment. His father died in 1889, leaving him with a family to support, and it was necessary that he stretch his slender income as far as possible. Pittsburgh was a gloomy city, with little sunlight, enveloped in smoke. Many of Jackson's early cases were extremely pathetic—children choking with diphtheritic membranes in their throats, children whose throats were seared by the accidental swallowing of lye, a child nearly strangled by a drunken father. Jackson worked tirelessly to cure and relieve them.

He found that with the proper tool he was able to increase his skill and dexterity a hundred fold. Used with care, a specially designed tool could be lowered into the esophagus or trachea and, like an extension of the fingers above, work in narrow passages where no finger or hand could penetrate. Dr. Jackson economized on room rent and on food, but he never hesitated over the purchase of an instrument the possession of which might mean saving a life. Many of the tools he devised himself in his basement workshop. By 1891 he had developed an esophagoscope, a tubelike instrument which, as the name indicates, enables the operator to see into the esophagus. This new instrument he introduced to a medical society that year, not realizing that other doctors had to be trained in its use as he had trained himself. Difficulties and complaints from untrained users followed, and the first esophagoscope was condemned, although later on it was perfected and widely used.

The bronchoscope had to be quite a different instrument, because of the different nature of the passage it was to penetrate: The esophagus is soft, elastic, collapsible—the trachea rigid, inelastic, open. The rigid character of the trachea and bronchial walls, the dilation and contraction of the bronchi with each breath and the heavy pulse of the heart made the bronchoscope a difficult instrument to manipulate and required hours of practice on anesthetized animals before the operator was skilled enough to use it on human patients. In combination with other instruments, it could be used for a variety of purposes, such as the removal of foreign objects from the lungs and bronchi of patients who had accidentally swallowed them. Cases which had heretofore been considered inoperable yielded to the peering eye and the sensitive wire fingers of the bronchoscope. When perfected, it opened a whole new world of living tissue to the eye and became an invaluable aid in diagnosis and operative technic.

A doctor whom Jackson had often treated for laryngitis remarked one day that he did not like Jackson's hacking cough. Thereupon he turned tables by examining the examiner's chest, and he found an early case of tuberculosis. Naturally such news came as a blow to Dr. Jackson; he was happily married, just getting well established in his profession and knew that if he abandoned his practice for a period of rest he might lose it entirely. Finally, a schedule was worked out which allowed him to go on with his practice but gave him twelve hours of bed rest out of twenty-four. He slept eight of those twelve hours and employed the remainder of the time painting medical illustrations of the tissues he had seen through the bronchoscope. With plenty of fresh air and a diet rich in meat and milk, he was well enough at the end of six months to go back to full time duty.

Two years later a second onset of tuberculosis was announced by a sudden hemorrhage. This time a more stringent schedule was arranged. Turning over much of the ordinary office practice to an assistant, Dr. Jackson took only the more serious and difficult cases and spent the rest of the time in bed. He bought a country place across the river in Ohio, where a crude sleeping porch was built for him. With the enforced bed rest came an opportunity he had long sought. He now had time to go through the mass of material he had collected in his practice as a throat specialist—thousands of case histories, sketches and illustrations of operations and bronchoscopic views and descriptions of instruments—and condense it into a textbook. He writes of this period: "Those were happy days notwithstanding the restrictions imposed upon me. Writing in bed was continuous from dawn till dinner. After the evening meal the sunset and the ever changing effects of fading daylight on the Ohio River hills were calm, peaceful and inducive to a good night's rest. The family at this time consisted of my wife, her mother and sister and my son, Chevalier Lawrence. It was a happy little family, a beautiful life, with never a jar nor a harsh word." His book, "Peroral Endoscopy," written during this period, stands as a landmark in medical literature.

Despite his setbacks, Dr. Jackson found that his reputation was grow-

ing. He served as a member of the staffs of fourteen Pittsburgh hospitals, and when he was about 35 was given the chair of laryngology at the Western Pennsylvania Medical College, an unusual honor for so young a man. He was called on to lecture at the meetings of medical societies all over the country and to demonstrate his operative technic in difficult surgery. In 1915 he was made professor of bronchoscopy at the New York Post Graduate Medical School. In 1916 he was invited to come to Philadelphia to the Jefferson Medical College. Here he found a larger field for work and a greater opportunity to teach and train young doctors. However, he soon had a third attack of tuberculosis, which was arrested by another year of treatment.

Since then Dr. Jackson has led an active life without impairment of health. He has served in all the five medical colleges of Philadelphia—Jefferson, University of Pennsylvania, the Graduate School of the same institution, Temple University and the Woman's Medical College, and has acted as president of the last named school. Although he dislikes travel, he has journeyed all over the United States and to Europe in the interest of his profession. Today, in his seventies, he is still active professionally. His son, Chevalier Jackson, who has also created for himself a fine reputation as a bronchoscopist, works hand in hand with his father in Philadelphia.

Only an indomitable spirit could have brought the frail boy so successfully through the grind and poverty of his early practice, through three successive attacks of tuberculosis, to the eminent position he holds today in the world of medicine. The quality of his patience is illustrated by the following conversation which once took place between the doctor and a student.

"Doctor," inquired his student, "have you ever removed a fishhook from a patient's lung?"

"No, I have never had occasion to do so," replied Dr. Jackson.

"But do you think you could if you had such a case?"

"Oh, yes indeed!"

"But if you have never done it, professor, how can you be so sure you could?"

Dr. Jackson regarded the student with a faint smile. "Simply because I have spent 283½ hours in the dissecting room practicing it. You see, I never knew at what hour of the day or night I might be called upon to do it, and I had to know how."

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Streamline Your Convalescence

(Continued from page 589)

than local anesthetics, and thus the plan of early rather than immediate rising is more applicable.

The following beneficial results of early activity have been observed: there is less feeling of weakness; there is a notable lift in morale; lung complications have been reduced four or fivefold; and there are fewer clots and embolisms. Bladder and bowel function is more nearly normal, and wound healing is promoted. Added to the above are incalculable economic benefits from more rapid convalescence, earlier return to work, and advantages to the nursing and hospital administration. Moreover, the plan facilitates and reduces the hazards of military surgery. Fearful and neurotic patients who think they are too sick to move become the keenest enthusiasts. Pain and discomfort are minimal. This is indeed an imposing list of benefits and explains the enthusiasm of certain leading teaching hospitals in adopting this method. In such institutions, large groups are being critically studied and analyzed. Only thus can a final evaluation be made.

The lay reader has been bombarded by advice to "go to bed" when he has a cold; he has been advised to get more rest or sleep when "run down." He may well ask, "What's so harmful about the recumbent position to which every one devotes so much time each day or night?" The best answer is that, after operations, the bed, especially in the first few days, is a veritable breeding place for complications. One scientific illustration may suffice: The breathing capacity of one's lungs may be measured and is called the "vital capacity." Lie down, and the amount of air that can be inhaled is reduced 15 per cent; this effect is not felt or perceived by the reclining individual. After an abdominal operation, the reduction in ventilation is between 50 and 65 per cent, due chiefly to diminished activity of the diaphragm. This is most evident on the first postoperative day, and it returns to normal between the seventh and fourteenth day. With early rising, the breathing returns to normal in less than half that time. Another disadvantage of the recumbent position after operations is the difficulty in coughing. Mucus collects in the bronchial tubes and needs to be expelled by coughing. With the patient sitting or standing, breathing and coughing are easier and more effective.

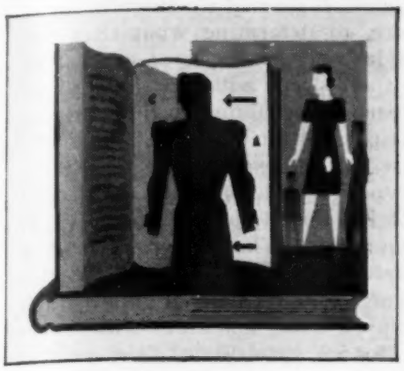
Tradition, feared and respected by surgeons and patients alike, is one of the chief obstacles to the more rapid acceptance of the principle of early rising and walking. Will this be one of those pictures so familiar in medical history in which a small, scattered group of enlightened men are leading a procession, with a large section of the profession open to conviction—but possibly an even larger section clinging to the older methods through sheer conservatism, caution and the well known inability of the human race to change its habits very fast? What else prompts a man to express surprise and anxiety over the speed of his wife's convalescence? Of course, there are the usual questions about the stitches breaking and the wound healing. Occasionally a strange reason emerges for resisting the doctor's orders, as for example, when the muscular colored cook said, "I feel fine but I ain't gonna leave this bed for two weeks. No sir—I ain't had a real vacation for years, and you musn't let me go back to work until after New Year's." And she didn't!

Good Chairs for Good Posture

(Continued from page 585)

utterly perfect for resting or even sleeping.

Our European ancestors sat on stools and benches and were comfortable. Primitive peoples and orientals squat on the ground for hours at a time. Through years of indulgence we have trained our backs to need support when we are in a sitting position, but that support should be where it is needed and where it will contribute to good posture—namely, at the base of the spine—or we might as well go back to the stools of the middle ages. Until all chairs are constructed from the standpoint of good posture as well as decoration, some of us may continue to find the invitation to "have a chair and sit down" a hardship rather than a relaxing experience.



NEW BOOKS ON HEALTH

Fighting Fitness

By C. Ward Crampton. Cloth. Price, $2.00. Pp. 251, Illustrated. New York: McGraw-Hill Book Co., 1944.

This book is prepared and designed especially as a guide to premilitary fitness training for boys and young men who desire to prepare themselves to render the best possible service to their country in peace or in war. The premilitary trainee in high school or college, as well as coaches and instructors, will find the activities listed and described in this book extremely helpful in pointing the way to the most efficient development of physical fitness for military service and for the rigors of a wartime situation. It is carefully prepared to supplement the United States Military Regulations, the program of the High School Victory Corps and various state and city methods and programs of conditioning and training.

Tests and methods of training utilized in the Army and Navy, with special emphasis on aviation, are included. These tests and training procedures are presented in such a way that the individual can readily understand and adapt them to his own preparatory program of training. Athletic sports and games, conditioning exercises, Commando and Ranger tactics, individual combat activities, obstacle races, grass drills and military swimming are thoroughly discussed and presented from the point of view of their application and use in military life.

One notable feature of the book is the emphasis placed on the present value of the types of skills developed by the pioneers of America. These skills are recommended for use to prepare the individual to adapt himself to living in emergencies under primitive conditions, which is sometimes necessary in a global war.

Each of the twenty-eight chapters deals with a specific phase of the physical fitness program. A majority of the chapters begin with examples of a need for the type of training suggested. The examples are in story form. They are actual cases drawn from the experience of the author. This approach to presenting the different phases of physical fitness immediately gains and holds the interest of the reader.

LESLIE W. IRWIN.

Convulsive Seizures

By Tracy Putnam, M.D. Cloth. Price, $2.50. Pp. 168. New York: J. B. Lippincott Co., 1943.

This book is published primarily for individuals suffering from convulsive seizures for the purpose of answering some of the many ques-

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tions, thoughts and doubts that exist in their minds. To the reviewer it is the first popular publication that brings to the prospective reader a clear cut and easily understandable discussion of this affection. It is full of information. The need for such a book is tremendous; it should take the stigma and fear out of individuals who have the disease. There are nine chapters which describe the causes and diagnosis of causes of seizures, what the patient can do to help, how bystanders can help, principles of treatment, the outlook for the individual and for control of the disorder and finally, a chapter for lawyers and legislators only. Many parts should go far to help the patient who is subject to seizures. There are a few points, in the opinion of the reviewer, that are controversial, but these controversial points do not detract from the value of this publication. It is recommended to all patients who suffer from the convulsive states and who have to adopt a definite regimen. This book is one of the best to date.

THEODORE T. STONE, M.D., PH.D.

Rose's Foundations of Nutrition

Fourth edition. Revised by Grace MacLeod and Clara Mae Taylor. Cloth. Price, $3.75. Pp. 594. New York: The Macmillan Company, 1944.

Since the death of Dr. Mary Swartz Rose in February 1941, the revision of her well established work, "Foundations of Nutrition," has been undertaken by Drs. Grace McLeod and Clara Mae Taylor of the department of nutrition in the Teachers College of Columbia University. The new edition takes account of research related to the vitamins; there have been rearrangements in the section on energy, protein, water and the minerals. The chapters on dietary planning have been completely rewritten and data related to calories and vitamin content corrected and brought up to date. New tabular data have been made available in the appendix. M. F.

The Readability of Certain Type Sizes and Forms in Sight-Saving Classes

By Harold J. McNally, Ph.D. Cloth. Price, $1.75. Pp. 71. New York: Bureau of Publications Teachers College, Columbia Universitty, 1943.

The importance of the author's problem is indicated by the fact that approximately 50,000 children are now being educated in 635 sight-saving classes in the United States. It seemed worthwhile, therefore, to determine what sizes and styles of type are most easily read by children with the degrees of visual defect found in these classes. At present the type most commonly used in these classes is "Clear Type," a widely spaced and leaded Caslon Bold type with capitals 6.25 mm. high. Where desirable reading matter is not available in this type, teachers type or mimeograph copies, using machines with letters 5 to 5.5 mm. high. The printed type is called 24 point type.

The problem was to determine whether type of this size is necessary for the average student in these classes or whether smaller and more economical type is read equally well. The author tested 70 pupils, all graded as to reading ability. They were divided into groups of six, one group from each of twelve schools. Their vision ranged from 20/30 to 20/200, but in most cases was between 20/40 and 20/100. Each group was asked to read for five minutes material used in third grade reading classes, of six different kinds of type. Four sizes of printed material were used, 12 point, 14 point, 18 point and 24 point, and typewritten and mimeographed copies of the size described above. As criteria of "readability," speed of reading and the "blink-test" of Luckeish and Moss were employed, the blinks being counted by trained observers. Careful precautions were maintained to minimize various sources of error, and the results were treated in accordance with statistical methods which are described.

Surprisingly enough, no significant differences were found for the group as a whole in the speed with which the different type variations were read, nor in the frequency of blinking with the different types. For the speed scores, significant variations were obtained due to individual differences, test form and order of testing, but not for type variation. These differences were not revealed with the blink-test, nor was there any significant correlation between variations as shown by speed scores and blink scores. This leads the author to question the value placed by some observers on the blink-test as a criterion of reading conditions; apparently reading speed would seem to be the most valuable criterion of "readability" at present available.

He concludes that during reading for five minute periods, there is not as great a difference in the readability of the type forms studied as has commonly been supposed. He suggests that further studies should employ longer reading periods and that "statistics of readability cannot be conclusive until and unless some more valid and sensitive criterion of visual fatigue, or of visual effort expended, is developed."

SANFORD R. GIFFORD, M.D.

Introduction to Exceptional Children

By Harry J. Baker, Ph.D. Cloth. Price, $3.50. Pp. 496. New York: The Macmillan Company, 1944.

This book by the Director of the Psychological Clinic of the Detroit Public Schools is written for college and university students as an introduction to special educational and training problems of children. It is comprehensive in scope, discussing the physically handicapped, problems of mental growth and development, neurologic and psychologically determined diseases, behavior disturbances of childhood and problems of educational retardation.

As an all-over review of a vast field, this book is excellent. The author reveals his familiarity with educational, general research and clinical methods, and resources for study and treatment of the numerous special problems children present. He is quite consistent in placing special problems against the background of the multiple factors and influences that determine personality development of the child. While he discusses symptoms, he directs the reader to the more basic problems of underlying determinants or causes. Since the author is neither a physician nor a psychiatrist, it may be asking too much to expect the discussion of neurologic and psychiatric disturbances to be less superficial and more in keeping with current medical ideas. The excellence of his presentation in general compensates for this deficiency, and the author refers to a rich literature in which more definitive discussions will be found by the mature reader.

GEORGE J. MOHR, M.D.

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Food and Drug Detective

(Continued from page 602)

stance has been substituted for a more valuable constituent; if damage and inferiority have been concealed in any manner; or if any substance has been added to a food to increase its bulk or weight, reduce its quality or strength, or make the food appear better or of greater value than it actually is.

A food is misbranded if it is sold under the name of another food; if it is an imitation and is not clearly labeled with the word "imitation"; if its container misleads the consumer as to the amount actually present; if a true statement of content and the name and address of the responsible shipper are not clearly stated on the label; if it is a standardized food and fails to live up to the legal standard; if it is not a standardized food and the label fails to list all the ingredients present; or if its label fails to call special attention to all artificial colorings and flavorings or chemical preservatives present. Only butter, cheese and ice creams are exempt from the artificial coloring label requirement.

Basically, the drug provisions of the law prohibit the sale of any medicine or device which is dangerous to health when used as directed. A drug is adulterated if it contains any filthy, putrid or decomposed substance; if it has been prepared, packed or stored under insanitary conditions; or if its container is composed of a poisonous or deleterious substance likely to affect the product.

Key to drug control is the provision that labeling is misbranded if it does not contain adequate directions for use and adequate warnings against misuse. In order to take care of prescription drugs, FDA regulations permit the omission of directions for use on drugs which are not suitable for self medication.

Drugs listed in the official compendiums—United States Pharmacopeia, National Formulary and Homeopathic Pharmacopeia—must comply with the standards of strength, quality or purity given in these books of "official" standards. If they do not comply, the label must contain a specific statement showing wherein the product differs from the "official" drug.

If a product is not an "official" drug, the label must give a list of all the active ingredients present. Habit-forming drugs must include special warnings on their labels. Drug labels must give the name and address of the responsible shipper as well as an accurate statement of contents, and drugs cannot be packed in false or misleading containers. A special set of regulations governs the labeling of all vitamins and foods for special dietary purposes. Vitamin products must list the amounts of each vitamin present in terms of nationally accepted minimum daily requirements.

Over the years, the Food and Drug Administration has waged a relentless battle against the distributors of medicines which are either worthless or contain dangerous drugs. In later years, activity along this line has been primarily confined to the fly-by-night operator. Recent drug and device activities include:

A permanent injunction to prevent further shipments of a chronic alcoholism remedy which contains emetine, a dangerous drug that causes the taker to vomit violently.

Seizure of a salve for the treatment of athlete's foot and other skin infections because it contained chrysarobin, a dangerous drug.

A fine of $1,000 and a five year probationary period for a man who distributed city tap water as a so-called "mineral water" selling for $20 a gallon.

A five year probationary period for the seller of a "tuberculosis compound."

Seizure of products claiming to contain "anti-gray hair" vitamins.

Seizure of electric light bulbs sold as a therapeutic device with claims that they "reduce eye and body fatigue" and that "eyestrain vitally draws upon the body's supply of vitamin A."

FDA's most recent and successful campaign in the drug field, hitherto unpublicized, has been its drive to completely eliminate from the market the so-called "abortifacient pastes"—a type of product used in an effort to induce a miscarriage. Objecting to the purpose for which the products were used and also contending that they actually constituted a serious danger to the user's health, FDA's enforcement activities have resulted in injunctions and jail sentences against all distributors of these pastes.

Under the stress of preventing wartime rackets and checking virtually all drugs bought by the Army, the Food and Drug Administration has not been active in the cosmetic field during the last three

years. However, recent cosmetic cases include:

Criminal prosecution against a manufacturer who produced a number of cosmetics under insanitary conditions.

Seizure of hair oils, hair tonics and permanent waving solutions which were represented as having therapeutic benefits on the hair and scalp.

A three-year probationary sentence for a manufacturer who sold an eyelash dye containing paraphenylenediamine, a dangerous substance which has resulted in blindness.

After passage of the 1938 law, the cosmetic industry engaged in a wholesale cleanup of its label representations without waiting for legal action. Some have slipped back to broad claims in the last two years, but Food and Drug has deferred its cleanup until after the war.

Probably the main reason why Campbell was not often classed among "those Washington bureaucrats" is the fact that Food and Drug must always be prepared to back up its charges and opinions before a judge or jury. If he wants to go that far, any manufacturer can have his day in court—a sharp contrast to other government bureaus who act as combined prosecutors, judges and juries.

The court procedure has forced the Administration to make sure of its ground before taking legal action. Food and Drug spent three years of intensive scientific investigation before seizing a prominent liver pill product. A judge or jury will weigh the government's data against that collected by the manufacturer who is contesting the case.

Even after cases are started, Food and Drug is willing to back down if it finds that a mistake has been made. Several months ago a shipment of vitamin capsules was seized at Minneapolis on the charge that they were deficient in riboflavin. At the request of the manufacturer, the Administration retested the product, found that it had made a mistake and asked the district attorney to dismiss the case.

The necessity of convincing a court, however, sometimes results in delayed justice. A trial involving the seizure of a nostrum represented as a cure for sixty-nine distinct diseases (including acute appendicitis, cancer, tuberculosis and coronary thrombosis) lasted sixteen weeks, after which a Detroit jury failed to agree on a verdict. The case will be retried.

Not all the public protection provided by Food and Drug results from its enforcement program and court activities. Much of its work is designed to protect the consumer before the product has reached the market. The agency's most important contribution to protecting the nation's food supply results from its standard-making operations. Under a special hearing procedure provided by law, the Administration has been issuing minimum food standards, which have the effect of guaranteeing to the consumer that the contents of a food package must at least meet specific government requirements.

The making of fair and equitable standards is a complicated procedure. At hearings on proposed standards for bread, the trade urged Food and Drug to approve the use of sixty-seven different ingredients. Before the war interfered with this work, standards were provided for canned fruits and vegetables, jellies and preserves, cream, cheese, evaporated and condensed milk, egg products, tomato products, dried skim milk, flour and farina.

Another important measure protecting the nation's food supply is FDA's current campaign to eliminate filth, dirt, insects and rodents from food establishments and warehouses, primarily small bakeries, candy plants, packagers of nuts, and handlers of seafoods. Unless extreme precautions are taken, insects and rodents will flock to establishments of this kind.

In the past, FDA had to wait until the finished products were marketed before taking action, and even then prosecutions had to be backed up by positive proof that filth actually was present in the product. Under the new law, FDA can base a prosecution on proof that the plant itself was not sanitary and does not have to prove actual presence of filth in the product itself. On the basis of this expanded authority, FDA has been winning a number of court cases, including injunctions and stiff criminal fines, against chronic offenders. In addition, state and municipal health authorities have joined in the campaign to clean up the smaller plants manufacturing foods for human consumption.

For years, Food and Drug has been tasting samples of all the tea imported into the United States to determine whether or not shipments measure up to certain quality standards. In 1944, Congress threatened to strike out the $31,000 annually appropriated for this work, but the tea industry saved the inspection system by getting legislative approval for a system of fees to cover the costs involved.

Other Food and Drug projects on a self-supporting, industry fee basis are: The testing of all insulin to

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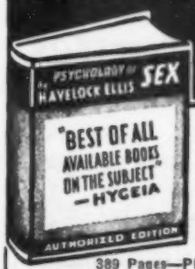

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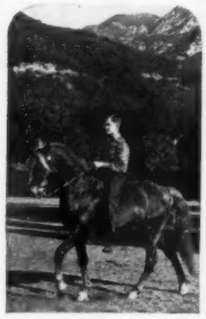

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insure standard potency for the maintenance of life among diabetics; the testing of all coal tar colors used in foods, drugs and cosmetics; and continuous factory inspection of canned shrimp.

Naturally, life is no bed of roses for Food and Drug or the industries it controls. When it thinks it is right, the Administration is as obstinate as any bureau in Washington; it insists that business dot all the i's and cross all the t's.

For years Food and Drug men fought to force special labeling for fruits canned in corn sugar and syrup, but they were finally overruled on the basis that there is no difference between dextrose and cane or beet sugar. In general, the Administration is conservative with regard to changes in food technology and holds out to the last for production processes that safeguard what Campbell called the "pristine purity" of the basic product.

Food and Drug has also had its troubles on Capitol Hill. The job of seizing adulterated products or curbing ambitious label claims is not the kind of thing that endears a government bureau in the heart of the average congressman or senator. Actually, most congressmen know little about the operation of this agency until one of his constituents runs afoul of the law or a lobby begins to operate.

The farm bloc is the major group on Capitol Hill which has opposed FDA's activities. The most recent example was the enactment of a law several months ago changing the name of dried skim milk to fancy but unknown cognomen—"defatted milk solids." Based on a provision of the law requiring a standardized food to be sold under its "common or usual name," FDA insisted that dried skim milk was the only name by which this product was known to the consumer. Farm bloc members in Congress, however, pushed the industry's contention that this name interfered with the wider use of this healthful, nutritious product. In the short debate over the bill, the lone senator who opposed the measure argued that the same logic would dictate special Congressional action changing the name of spinach—also a healthful product.

Dairy interests bucked all efforts of the Food and Drug Administration to standardize margarine, but the Federal Security Administrator backed up his agency, and today a standard guarantees that all margarine meets at least certain minimum requirements. Farm congressmen also have battled FDA's efforts to force apple growers to remove the lead and arsenic residue from fruit sprays before marketing their products.

It is lucky for the consumer that the Food and Drug Administration has learned to do a big job on small appropriations. While appropriating billions for New Deal and wartime agencies, Congress spent several weeks wrangling over an additional $128,000 for the 1944 Food and Drug appropriation. The secret behind Food and Drug's ability to get along on little money lies in the agency's esprit de corps. Working for Food and Drug, staff members say, is a way of life rather than a job.

This is the second of two articles about Walter G. Campbell and the Food and Drug Administration.—Ed.

Doctors in Scientific Meetings

(*Continued from page 599*)

Lt. Cmdr. D. H. Rosenberg and Lt. P. A. Arling: Penicillin is an extremely potent agent in the treatment of meningitis. The drug was put into veins, muscles and the spinal canal, with the latter giving the best results.

A group of Army and Navy medical officers: The drug is effective in treatment of ear infections, including mastoiditis; in the treatment of nose and throat diseases (but here surgery often is required too); and in the treatment of diseases of the eye. In all cases, the military physicians specified, penicillin is effective only when the bacterium causing the infection responds to the drug.

Good news for mothers was contained in the report by Dr. Robert A. Hingson of the U. S. Public Health Service, one of the originators of the technic of giving childbirth analgesia through the spine. Speaking before the section on anesthesiology, Dr. Hingson said that only 1.7 per cent of the babies in 36,000 cases in which the continuous caudal anesthesia was used were born dead, as compared with the 5.2 per cent infant mortality reported by the Bureau of the Census. The method of removing the pains of childbirth, he added, has been especially helpful in the obstetrical care of women in convulsions and those with high bood pressure.

The technic and devices for giving the anesthetic have now been improved so there is almost no dan-

ger of breaking the needle with which the drugs are injected into the spine, and it now is even possible for women in labor to lie on their backs, Dr. Hingson said. He explained that the method may be of great value in relieving other types of pain and in certain surgical procedures on the lower half of the body. He repeated the oft-given warning that continuous caudal analgesia should be given only by specialists and specially trained physicians. In time, he predicted, mothers-to-be will gravitate to the hospitals which have trained such specialists to work with obstetricians. Capt. Edward B. Tuohy suggested that a soft tube be used to inject the analgesic drug, instead of a needle.

The section on obstetrics and gynecology heard Lt. (j.g.) Lester D. Odell and Dr. William F. Mengert of Dallas, Tex., report on a University of Iowa study showing that overweight mothers run increased risks in child bearing. They said that the 641 obese women studied had given birth to a total of 2,894 infants, or an average of 4.5 babies a piece. The study also showed that the maternal death rate among the overweight mothers was twice the normal death rate and that surgical procedure of some sort during labor was "more frequently necessary." All the women studied weighed over 200 pounds.

A group of doctors told the section on experimental medicine and therapeutics that many types of patients get too much rest in bed for their own good. The doctors talked about the "abuse" of rest. Dr. Tinsley R. Harrison of Dallas suggested that heart patients be allowed out of bed for short daily periods, at least, as soon as their more alarming symptoms subside. Experiments with animals have indicated that too complete restriction of body movement had increased mortality in cases of heart muscle injury, he said. He added that there is no proof that rest in bed after symptoms of various types of heart trouble have disappeared is of any value in the management of the ailment. The available evidence, he said, points the other way.

Dr. William Dock of Los Angeles said that complete bed rest may cause bed sores, bone atrophy, muscle wasting, vasomotor instability, constipation, bad cathartic habits, backache and other disabilities which may exist for years. Complete bed rest must always be considered as "a highly unphysiologic and definitely hazardous" form of treatment, he remarked. He said such rest is especially dangerous in elderly patients.

Surgeons, too, were urged to keep bed rest at a minimum in a paper delivered by Dr. Ralph K. Ghormley of Rochester, Minn. Even when such therapy is unavoidable, as in fractures or diseases of the spinal column, pelvis, hip or long bone of the leg, the rest should be shortened as much as possible to prevent shriveling of bones, muscles and joint structures and the formation of blood clots, he asserted.

Dr. Nicholson J. Eastman of Baltimore, Md., severely criticized industry for discharging and otherwise excluding pregnant women from plants. This policy, he said, "eliminates from utilization a large number of willing, valuable and skilful workers" before their absence from the job is at all necessary. "Ideally, the pregnant woman should not be employed," he said, but, he warned, "In whatever class of society, a sedentary, unoccupied life is not conducive to the health of the expectant mother." Among the safeguards he outlined for pregnant women in industry were facilities for adequate prenatal care, avoidance of work on night shifts, rest periods, avoidance of occupations which demand heavy lifting, continuous standing or a good sense of bodily balance, and a minimum of six weeks leave before delivery.

Dr. Eastman also criticized the theory that there should be several years of rest between pregnancies if the best interests of mother and child are to be served. He said that recent surveys, one covering 5,000 cases and another 33,000 cases, have shown that: (1) Infants born from twelve to twenty-four months after a previous delivery have at least as low stillbirth and neonatal mortality rates as do infants born after long intervals; (2) the longer the interval between births, the more likely the mother is to suffer from some form of hypertensive toxemia of pregnancy; (3) in patients who have had a previous hypertensive toxemia of pregnancy, the likelihood of repetition becomes progressively greater as the interval becomes longer; and (4) the incidence of premature labor, anemia, postpartum hemorrhage and puerperal infection is no greater when the interval is twelve to twenty-four months than when it is longer.

"Whatever advantage is gained by a rest period of several years between births seems to be offset and in some respects more than counterbalanced by the aging factor," he said, "for it must never be forgotten that the most important talisman which a child-bearing woman can possess is youth."

HEALTH IN THE HEADLINES

BY reaching the age of 10 years unharmed, which they did a few months ago, or on May 28, 1944, to be specific, the Dionne sisters, who have always been something of a headache to statisticians, passed another milestone of scientific improbability. This occasion is gravely noted in the *Statistical Bulletin* of the Metropolitan Life Insurance Co., which points out that the Dionnes, in successfully surviving such hazards as (1) multiple birth from (2) a single ovum, (3) premature birth and (4) the ordinary risks of infancy and early childhood, have jointly overcome the aggregate risks normally encountered by one woman in reaching the age of 60 years. Looking ahead, the *Bulletin* strikes a happier note: The girls are now entering the safest period of life, statistically, the *Bulletin* says cheerfully, with 98 out of 100 chances of reaching age 16, 68 in 100 chances of reaching 45 and at least 20 in 100 of celebrating their sixty-fifth birthday together.

* * *

MALINGERERS who think they can avoid military service by faking total or partial deafness are playing a losing game, Dr. W. E. Grove points out in a recent issue of the *Annals of Otology, Rhinology and Laryngology*. Describing some of the tricks used by malingerers and the means which have been developed to detect them, Dr. Grove demonstrates that a man's chances of avoiding service or getting a medical discharge *via* simulated deafness are just about nil. Faked hearing difficulty, for example, can always be turned up sooner or later by repeated tests of ability to hear different sounds at various distances. A man would have to have both a phenomenal memory and a highly trained musical ear to avoid giving conflicting replies when such tests are repeated over and over on successive days. If the distances at which sounds are heard are always the same, Dr. Grove says, faking can be ruled out.

Men who claim total deafness often expose themselves by responding to sudden questions or remarks, such as "How long have you been deaf?" or "Your trousers are unbuttoned!"—directed at them when they think they are unobserved. If the shirker is wary enough to avoid such traps, he may betray himself by *failing* to respond to sounds whose vibrations would disturb even the totally deaf. And if all these means fail, Dr. Grove explains, medical investigation of the vestibular function of the ear can be relied on to determine the actual presence or absence of total deafness.

* * *

AN exhibit of more than a thousand paintings, water colors, etchings, photographs and sculptures, representing the work of some four hundred members of the American Physicians Art Association, was on display in Chicago last month in connection with the annual session of the American Medical Association. The doctors' art show was a popular feature of the assembly, drawing many of the 7,000-odd physicians who were in town for the meetings and for whom the art exhibit probably offered a refreshing contrast to the displays of x-ray equipment, operating tables, fracture beds, diathermy machines and other medical hardware commonly found at such gatherings.

Surprisingly, the physicians who are part-time artists do not lean heavily to medical subjects; the sprinkling of hospital, operating room, clinic and consulting room scenes was not much greater than one would expect to see in an exhibit by ordinary, or nonmedical, artists. The doctors presented about the usual variety of landscapes, portraits, still lifes, nudes and urchins gazing into store windows, and, according to the well known artists and critics making up the panel of judges, some exceptional talent was demonstrated. Completely missing, however, were droopy watches, disembodied eyes, geometric mazes, goat-men and other concepts of an impressionistic nature. The doctors, it seems, like to paint the world as they see it, soberly, rather than as they imagine or dream about it. Probably their scientific training.

* * *

HARDSHIPS of war: Answering an inquiry from a worried personnel executive who finds an increasing tendency on the part of applicants for work to chew their finger nails, medical authorities say that nail biting is an expression of a strained, tense, uneasy, emotionally unstable state—a motor discharge of inner tension or panic. The stress and strain of present world affairs may have a tendency to increase the habit, the experts say.

* * *

A "penicillin pipeline" from the Normandy beachheads to base hospitals in Britain has been operating successfully since D-day, Lt. Gen. Sir Alexander Hood, director of the British Army Medical Services, told a recent press conference. A distinctive yellow label is attached to every wounded man who needs penicillin, the general explained; thereafter, as he is passed back to the base he is given penicillin every five hours—whether he is aboard a ship, plane or train or at a temporary station.

The pipeline is part of an integrated evacuation system originated two years ago and tested in actual trials as invasion plans took shape. In the trial exercises, "casualties" were embarked and disembarked from ships on British beaches, loaded onto fully staffed ambulance trains and removed to distant hospitals. The system is working to perfection under combat conditions, General Hood announced, with a steady stream of wounded moving by air, sea and land from the fighting zone into the interior of England. Since the invasion started, less than 1 per cent of the wounded who reach medical installations have died, compared to 11 per cent in the last war.

"Our only fear was that the organization might be swamped by thousands of casualties piling up on the beaches during the first hours of the invasion," General Hood said.

But it didn't happen that way.

—R. M. CUNNINGHAM Jr.